

SOCIAL CAPITAL AND HOUSEHOLD WELFARE IN VENEZUELA¹

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ABSTRACT

Although there has been an impressive development on theoretical work on social capital since the seminal papers of Coleman and Putnam, the empirical research has received little attention. This paper analyzes the impact of social capital on household income. We adapt the social capital module of the UK General Household Survey to apply it to a randomly chosen sample of 300 households in Chacao County, Venezuela. We build an index of social capital composed by 5 dimensions: view of local area, civic engagement, reciprocity and trust, social networks and social support. We use a reduced-form model of household welfare to estimate the contribution of social, human and physical capital to household income. We find empirical evidence that social capital makes a significant contribution to household income. We also find that the effects of social capital operate through 3 channels: sharing information, reduction of opportunistic behavior and improved collective decision making.

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INTRODUCTION

The causes of underdevelopment and dismal economic performance in the developing world are being constantly debated. In many cases, economists wonder why although many countries have undertaken important market friendly reforms, there are still severe problems such as chronic unemployment, high poverty and inequality.

Recently, many researchers have started to find alternative ways to explain development. A novel concept, social capital, has arisen as a multidimensional factor, which includes the complexity of human interactions at the individual and collective levels. This concept could shed additional light on the complex issue of development.

Since the last two decades there has been a large literature on social capital based in the pioneer contributions by Bourdieu, Coleman, Putnam, Fukuyama and Kliksberg. Although there is no consensus about the definition of social capital, most of the work in this field argues that the building of collective assets may contribute to development. In this regard, concepts such as values, personal trust, sociability, and civil engagements are key to understand individual and collective well-being. Thus, social capital has become an innovative approach to study the relationships between individuals that interact in society and its impact on development.

Despite that there is not full agreement on the definition of social capital, following OECD, it could be defined as the set of networks, norms and agreements that facilitated cooperation within a social group or between different social groups. The advantage of this definition is that does not include other dimensions such as political, institutional and legal.

It is difficult to argue against the benefits of increasing social capital given that trust, norms and social networks help flows of information, collective action, reciprocity, improve decision making and reduce free-rider behavior at the individual level. At the community level, more and better social capital improves

quality of life and contributes to economic development through the reduction in crime and violence. From the institutional point of view, social capital helps the establishment of a transparent public action, better education, and the strengthen of democracy.

There are several studies that analyze the effects of social capital on well-being, and some multilateral banks, such as the World Bank, have sponsored field work in the subject. For example, Narayan and Prichett (1997), Grootaert (1999) and Grootaert and Narayan (2001) have conducted research on the construction of measures of human capital and its effects on poverty and inequality.

Measuring social capital it is a complex task and a methodological challenge, which in many instances conduce to the use of proxy variables to approximate the real value of the concept. Although imperfect, this measure could help in the diagnostic of the state of social capital in a given community, and in the design of public policies that aim at improving and increasing social capital.

In this paper we implement a methodology to measure social capital for Chacao County in Caracas, Venezuela, and using household survey we determine the impact of social capital on household income. In fact, we find that through citizen participation, social support, social networks, trust and reciprocity, all elements of our measure of social capital, people can improve living standards. Moreover we find the effects of social capital on household income more important than the effects of human capital and other assets.

We believe that this research is important to the extent that can provide tools for policy makers that will help them to design better policies to reduce poverty. This is important in a country like Venezuela where there has been a marked deterioration of economic and social indicators, which in turn may have caused an erosion of some forms of social capital. As far as we know, this is the first attempt to measure social capital in Venezuela, and we hope that this type

of study could be replicated in other communities in order to have a sense of particular aspects that may influence the state of social capital.

This paper is structured as follow: section one presents a brief review of the literatures, section two develops the methodology used to measured social capital as well as the description of the sample, data and variables used to explain the effects of social capital, section three presents the results and section fourth provides some concluding remarks.

A BRIEF REVIEW OF THE LITERATURE

During the nineties, the concept of social capital started to play an important role in economic analysis. Despite that there is not a definition widely accepted, many social disciplines started to include social capital as an important explanatory variable for numerous social phenomena. For example, in the field of modern sociology, Bourdie (1986) was a pioneer in the analysis of social capital. He defined this concept as the sum of actual or potential resources linked to the possession or access to a lasting network of relationships with an institutional character and mutually accepted and recognize by its members. In other words, a membership to a group.

On the other hand, Coleman (1988) defined social capital as a component of human capital, which allows members of society to trust each others and to cooperate in the formation of new groups and associations. Contrary to Bourdie, Coleman argued that social capital is not the product of a deliberate strategy of investment, but rather it is a by product of other social activities such as family interaction and religious participation.

In one of the most cited works in the literature, Putman (1993), defines social capital as the characteristics of a social organization such as confidence, norms, and networks which could improve the efficacy of the society through coordinated actions. His study was based on the differences between the north and south of Italy and showed that social capital it is constituted by the degree of trust between social actors, the norms of civic engagement, and sociability

that characterize a given society. He also argued that communities that enjoy of the values of social capital provide trustworthiness in social relationships, incentive the formation of human capital and produce more efficient local governments.

In this context, it is worthwhile to mention the studies by Fukuyama (2000), which conceptualize social capital as norms and shared values that promote trust and social cooperation. These factors are key to the conformation of a strong and cohesive civil society. In addition, Kliksberg (2000) puts special emphasizing the components of social capital such as the values of interpersonal trust, sociability capacity, civil engagement and ethical values. The benefits of social capital or the channels through which it affects development include an array of elements that are interlinked. Grootaert and Van Bastelar (2002a) distinguish three transmission mechanisms form social capital to development:

1. People participation in social networks increases the availability of information and reduces transaction costs.
2. People participation in local networks and mutual trust help decision making and collective action
3. Local networks contribute to reduce opportunistic behavior by members of the community.

Likewise, Dudley (2004) argued that social capital through information, reciprocity and norms contribute to trustworthiness and cooperation between individuals, which in turn, permits the exchange of information and the establishment of cultural norms and procedures that guides behavior. These three channels create opportunities to improve economic activity and benefits to individuals and society as a whole.

Effects of Social Capital: Empirical Evidence

Since capital social became a popular concept, several authors have wondered how to measure it given the variety of elements and aspects that are

embedded in it. For this reason it is not an easy task to come up with a unique definition. Moreover, social capital is a dynamic phenomenon due to the fact that its components vary continuously (informal and formal organizations). However, some empirical studies have developed approximated measures, which can be related to income, poverty, health, well-being, growth and development.

The benefits of social capital can be found at the micro and macro levels. In the first aspect, the gains arise from the capacity of individuals to integrate and participate in social networks. At the macro level, the benefits come from collective action through social cohesion and the respect to laws and norms. Rose (1999) focus on identifying and analyzing formal and informal networks in Russia and the interaction between them. He found that this networks and its interaction could contribute to improve individual welfare.

In this same line, Krishna and Uphoff (1999) use as main indicators of social capital the trustworthiness and density of voluntary networks in India. They found that their indicators are positively correlated with the development of cooperative activities and water conservation in Rajasthan.

Narayan and Prichett (1997) build a measure of social capital for Tanzania using data from polls about the characteristics of the associations and the confidence in institutions and individuals. They showed that social capital is in fact a family asset and that its impact is even greater than the produced by the accumulation of human capital. In addition, they found that the impact of social capital on income is significant (an increase in one standard deviation of the measure of social capital produces an increase of 20-30% in family income).

At the macro level, social capital can be approximated by different components of institutions and organizations at the local level, which permits to measure civic engagement. Grootaert (1999) used this approach and developed a methodology to measure the impact of social capital on welfare. He considers six dimensions: density of members, degree of heterogeneity, frequency of participation, level of participation, commitment and community orientation.

He also compared the return produced by social capital in poor families and non-poor families in Indonesia, finding that higher social capital reduces the likelihood of being poor, and the benefits of this kind of investing in social capital is larger in poor families than in the rest of the population. He concluded that families with larger social capital also have higher per capita income, more consumption and more access to credit.

METHODOLOGY

We design a survey to measure social capital and it was applied during April 2005 to a randomly chosen sample of residents in Chacao County. Chacao is one of the five counties of the District of Caracas. This county has an area of 2,700 hectares of which 892.45 correspond to urban area and the rest to Ávila National Park. Chacao is divided in 16 urbanizations and its population reaches 65,194 people that habit in 26.474 housings. 72% of its habitants belong to the economically active population (between 15 and 64 years) and the educational level is one of the highest in the country. Chacao is characterized to be a county with a prosperous commercial activity. The municipal government is represented by Mayor and Municipal Council, both elects by vote.

The Social Capital questionnaire is an adaptation of social capital module of the UK General Household Survey (Coulthard et al 2002). The questions were designed with explicit purpose of measuring social capital and we used a conceptual approach in selection of questions. The questionnaire examines structural dimensions (associations, groups and networks) and the cognitives dimensions (trust and solidarity) of social capital. Also, the questionnaire compiles additional information to construct variables like human capital, physical assets, income, etc.

The questionnaire is divided in:

- I) Personal Information
- II) Social Capital Module
- III) Household Economy Module

Sample design

The target population was all people in familiar units (homes) whose principal residence was in Chacao County between April and May 2005. The respondent unit was the head of household, who provides the information needed by the survey.

The survey frame, also called the sampling frame, is the tool used to gain access to the population. In this case, it was constructed from the registry of structures of Chacao County made for Census 2001¹. We select the structures which use was familiar housing (Chacao have 26,474 housing).

In order to inference about the population, we used the probability sampling method, because units from the population are randomly selected and each unit's probability of inclusion can be calculated.

For this study, we used a two stages stratified sampling. The population was stratified by two variables: type of block and urbanization. In the first stage, selection units were blocks inside each stratum. In second stage, selection units were conglomerated of approximately 10 housing by block. This sample design guaranteed a random selection of sampling units, that is, randomly chosen blocks and randomly chosen housings.

In order to determine the sample size we solved:

1. Admit a margin error = 5% in estimations respect to population values.
2. The equations to determine sample size are following:

Size of general sample:

$$n_0 = \frac{t^2 pq}{d^2} \qquad n = \frac{n_0}{1 + (n_0 - 1/N)}$$

Where:

n_0 : Initial sample size

d : Margin of error (5%).

t : Abscissa of normal distribution that it leaves α in tails of distribution, to this case significance level $\alpha = 5\%$.

¹The registry of structures constructed by INE is the base of any sampling study in Venezuela. These registries of structures update every 10 years.

P : Estimated value for the proportion of a sample that belongs to interest group.

q : Estimated value for the proportion of a sample that not belongs to interest group. ($P + q = 1$)

n : Sample size corrected by finite population correction factor.

In order to determine sample size in each stratum:

$$n_h = n \frac{N_h}{N} \quad \text{con} \quad N = \sum_{h=1}^L N_h$$

Where:

n_h : Sample size of stratum h.

N_h : Population size of stratum h.

L : Number of stratum of population.

The number of blocks to select (primary sampling units) arises from an approximated relation:

$$m_h \cong \frac{n_h}{8}$$

Where:

m_h : Number of blocks in sample of stratum h.

8: Consecutive number of housing in which each block was divided (this value varies according to number of housing that contain each block).

3. By characteristics of Chacao County, it is coherent to suppose that more of 50% of population belongs to interest group. In order to obtain a reasonable sample size in terms of operational capacity and time available, it is taken like initial estimation that $\frac{3}{4}$ parts of population belong to interest class, that is, $P = 0,75$.

$$n_0 = \frac{(2)^2 0.75(1-0.75)}{(0.05)^2} = 300$$

$$n = \frac{300}{1 + (300 - 1/26474)} = 296,650 \cong 297$$

Thus, we obtained a sample of 297 housing of Chacao County. In order to guarantee recollection of information, two samples with identical characteristics were selected so that before any circumstance that disabled the physical location in the field of selected unit of sampling, it was possible to be replaced easily by another unit selected under a similar random procedure.

The Measurement of Social Capital

In this paper we constructed an indicator of social capital such as an additive index, according to Grootaert and Narayan (2001). The Social Capital Index (ICS) is a quantitative measurement of certain aspects that are appropriate from the theoretical point of view to analyze degree of social capital that has an individual and shares with community. Specifically, the index is a simple average of indicators of each one of the dimensions related to social capital. These dimensions are: perception of the local area, civic engagement and participation, reciprocity and local trust, social networks and social support (see Appendix). Data used for the calculation of each indicator come from the Social Capital Module of household survey applied to 297 families of Chacao County. All indicators were constructed in a scale that varies from 0 to 1, where as value approaches 1 index comes near to the optimal one.

RESULTS

Perceptions of the Local Area Index:

This indicator evaluates the perception of the individuals of the physical environment in which they live, the facilities and services on which they have within the county and the level of personal security.

The results of the Perceptions of the Local Area Index are in the following table.

Table 1: Perceptions of the Local Area Index		
Statistics		
N	Valid	297
	Missing	0
Mean		0.640412496
Median		0.666666667
Std. Deviation		0.148963993
Skewness		-0.394147232
Kurtosis		-0.126502981
Minimum		0.174603175
Maximum		1

The mean of the sample is 0.64. This can be considered high taking into account that the indicator varies between 0 and 1. The median indicates that 50% of the sample describes the county over the 0.66. This measurement is more robust since it's not affected by extreme values, as it happens to the mean. As show by the minimum value, none citizen has the worse perception of Chacao County, which confirm that the results of the indicator are high.

Table 2 shows that 75% of the respondents grade the county over 0.54; that is, over the intermediate qualification.

Table 2: Percentiles - Perceptions of the Local Area Index		
Views about the Local Area Index		
Percentiles		
25	50	75
0.537698413	0.666666667	0.744572829

In general, it is possible to argue using the standard deviation, that the scores are uniform enough, that is, the respondents maintain similar opinions about Chacao County.

With the purpose of verifying the dimensional character of the components of the Perceptions of the Local Area Index, the test of scalability was ran and gave a result of an alpha of Cronbach of 0.81. This suggests that the index measure a unidimensional phenomenon, that is, the perception of the county.

In general, according to the perception index, the habitants have a positive vision of Chacao County and enjoy living there. This dimension of social capital suggests that in the county exists a favorable environment for the development of social life, which allows its habitants to be related between then, and to fortify practices of “sociability”. This aspect has an important incidence in the way individuals are related to each other, their disposition for the collective action and their relation with the community.

Civic Engagement Index:

Putnam (1993) argues that civic engagement is a key dimension in the analysis of social capital in a given community. Civic engagement refers to the level of participation of citizens in public issues. The Civic Engagement Index measures the active participation of neighbors in local activities and their vision on the possibilities of influence in local affairs, as well as the degree of information about local issues.

The mean value of the index (0.53) suggests that the civic engagement in Chacao County is an intermediate level within the considered rank (see Table 3). When examining the median one reaches the same conclusion, 50% of the values of the index are below 0.54. Although none citizen has the minimum level of civic engagement, only 1.3% put it in the maximum degree.

Table 3: Civic Engagement Index		
Statistics		
N	Valid	297
	Missing	0
	Mean	0.532491582
	Median	0.541666667
	Std. Deviation	0.231511332
	Skewness	0.158599091
	Kurtosis	-0.97231653
	Minimum	0.125
	Maximum	1

These results make necessary an analysis of the aspects that differentiate the end points. The quintiles classification of the index shows that most of the components are similar between categories with the exception of the indicator of participation in organizations. Table 4 shows that in the quintil of greater civic engagement 69% participate actively in some organization. In the lowest quintil there is not exist any type of participation. Therefore, inside the index, to participate or not in some kind of organization is what makes the difference.

Table 4: Civic Engagement Index by quintiles					
	I Quintile	II Quintile	III Quintile	IV Quintile	V Quintile
No participation	100%	95%	91%	75%	16%
Non-active participation	0%	3%	5%	6%	15%
Active participation	0%	2%	4%	19%	69%

In sum, the results indicate an intermediate level of civic engagement of the citizens in Chacao County. Nevertheless, the associative strength in the county is reduced. This fact has important implications; membership to organizations constitutes the most important source of bonding social capital and bridging social capital. The low participation in associations can be a common phenomenon for all habitants of Venezuela and can be related to the political, economic and social environment.

Social Network Index:

Social networks are all the informal bonds constituted by the relations between relatives, friends and neighbors; as well as all activities that are associated with these relations. Therefore, Social Network Index measures the frequency of contact (face to face or by telephone) with relatives, friends and neighbors. The results for this index are presented in Table 5.

Table 5: Social Networks Index		
Statistics		
N	Valid	297
	Missing	0
	Mean	0.654595844
	Median	0.659863897
	Std. Deviation	0.148272356
	Skewness	0.030949625
	Kurtosis	-0.60107733
	Minimum	0.312925121
	Maximum	1

The average of the Index of Social Network is 0.65 and 50% of the responses are over 0.66. This result demonstrates a satisfactory level of social relations in Chacao County within the established rank.

The minimum value for this index (0.32) is high, that is, none habitant of Chacao has a total absence of social relations. Likewise, the standard deviation indicates that the level of density of these relationships is similar enough between all the interviewed individuals.

The alpha of Cronbach test (0.83) guarantees that the index is a measurement of an unidimensional phenomenon, that is, there density of the social networks of the residents of Chacao County. Therefore, it is possible to affirm that in Chacao the individuals maintain frequent relations with their relatives, friends and neighbors. These social networks are investments in social capital and encourage sustainability of social capital in the county.

Social Support Index:

The dimension of social support is associated to the previous dimension. Social support determines the degree of closeness and the type of social networks in which individuals participate. Social support is referenced to the degree of establishment of obligations and expectations.

In order to evaluate this concept in practice, the Social Support Index shows how many people the respondent could turn to in case he or she needed help, ranging from financial to emotional support.

The Social Support Index for Chacao County has a mean value of 0.72 that is close of the optimal value; and 50% of the responses also are located over 0.72 (see Table 6).

Table 6: Social Support Index		
Statistics		
N	Valid	297
	Missing	0
Mean		0.72022447
Median		0.72
Std. Deviation		0.15912847
Skewness		-0.54804639
Kurtosis		0.9287323
Minimum		0.04
Maximum		1

The histogram and the coefficient of skewness show the tendency of the dataset values to “bunch” at the upper end of the distribution.

In general, the results demonstrate that social networks that have been established citizens of Chacao County are composing mainly by close friends and relatives. An important characteristic of these networks is the physical proximity, which guarantees timely access.

Reciprocity and Trust Index :

Social networks are created and maintained by the existence of relations of reciprocity between members. Reciprocity implies that the benefits that one of the parts obtains today will be repaid in the future. This is not limited to a relation between two persons, but it appears as a feature of the community in general. Thus, reciprocity is a fundamental dimension of social capital since it contributes to reduce problem of collective action, diminishing the possibility of opportunistic behavior.

Nevertheless, reciprocity is maintained by the believe that favors will be repaid in the future; and this mechanisms increases the levels of trust in a community. Therefore, trust and reciprocity are interdependent.

Table 7: Reciprocity and Trust Index		
Statistics		
N	Valid	297
	Missing	0
Mean		0.63520389
Median		0.66666667
Std. Deviation		0.23553638
Skewness		-0.60430218
Kurtosis		-0.39207256
Minimum		0
Maximum		1

The Reciprocity and Trust Index is based on the links that establish individuals through the accomplishment of favors, their frequency and magnitude. The value for this index (see Table 7) shows an average value of 0.64 and the median indicates that 50% of the observations are over 0.66. These results situate the level of reciprocity and trust of the habitants of Chacao County in an intermediate level.

According to the distribution by quartiles, only 25% of the respondents reported values of reciprocity and trust that approach the optimal. Nevertheless, 75% are over the intermediate value of the scale (see Table 8).

Table 8: Percentiles - Reciprocity and Trust Index		
Confidence and Reciprocity Index		
Percentiles		
25	50	75
0.533333333	0.666666667	0.8

In general, the habitants of Chacao County show high levels of reciprocity and average levels of trust. In terms of social capital, the reciprocity is an attribute that imply a more efficient community through cooperation. Trust is a key element to maintain this cooperation.

Social Capital Index:

The Index of Social Capital is an additive index, specifically it is calculate as the simple average of the described indexes: Perceptions of the Local Area Index, Civic Engagement Index, Index of Social Networks, Index of Social Support and Index of Reciprocity and Trust.

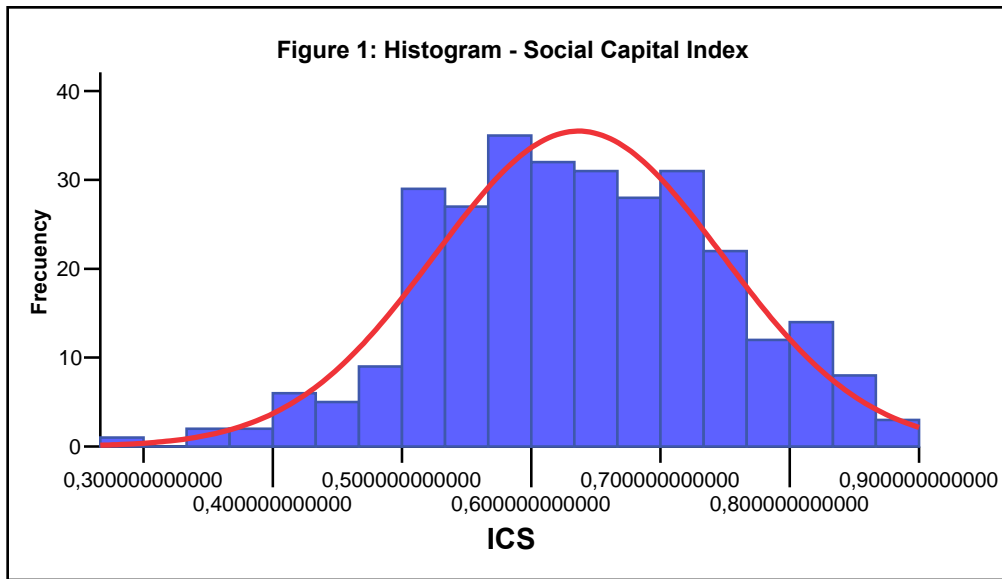
The Social Capital Index for Chacao County shows mean value from 0.64. In order to affirm if this level is elevated or not, it would be necessary to establish a comparison, for example, with another county. However, it is possible to conclude that the Social Capital Index surpasses the intermediate value (see Table 9).

Table 9: SOCIAL CAPITAL INDEX		
Statistics		
N	Valid	297
	Missing	0
Mean		0.636585656
Median		0.633718821
Std. Deviation		0.11126656
Variance		0.012380247
Skewness		-0.065844714
Kurtosis		-0.201423904
Minimum		0.279534614
Maximum		0.886820843

The median shows that 50% of citizens of Chacao reach levels of social capital above 0.63. The tops 25% of the distribution has values superiors to 0.72 and the other lower 25% at 0.56, which means that the lower part of the distribution is above the intermediate range (see Table 10).

Table 10: Percentiles - SOCIAL CAPITAL INDEX		
SOCIAL CAPITAL INDEX		
Percentiles		
25	50	75
0.557161567	0.633718821	0.717475056

The distribution of the Social Capital Index shows that individuals are concentrated around the central value. It is important to notice, that none habitant of Chacao County report total absence of social capital, nevertheless, none does not reach the optimal level either (see Figure 1). The distribution of the Index of Social Capital in Chacao shows that individuals are concentrated around the central value.



It is useful to summarize and evaluate the components of the Social Capital Index. Table 11 shows that the Social Support Index presents the higher value, followed by the Social Networks Index. The Civic Engagement Index shows the lowest performance as compare with the rest of components.

Table 11: Components - SOCIAL CAPITAL INDEX	
	Mean
Perceptions of the Local Area Index	0.6404
Civic Engagement Index	0.5325
Reciprocity and Trust Index	0.6352
Social Support Index	0.7202
Social Networks Index	0.6546

In this light, we can affirm that the scores of the residents of Chacao are homogeneous in the Indexes of Social Networks, Perception of the Local Area and Social Support.

In accordance with empirical evidence, the concept of social capital is closely related to economic and social factors. In this sense, it is necessary to find a positive relation between social capital and income for the case of Chacao County.

Specifically, Figure 2 shows that the high-income group shows better scores in the Index of Social Capital. This relation is positive and statistically significant in accordance with the Spearman's coefficient (see Table 12). This relation is analyzed in the following section.

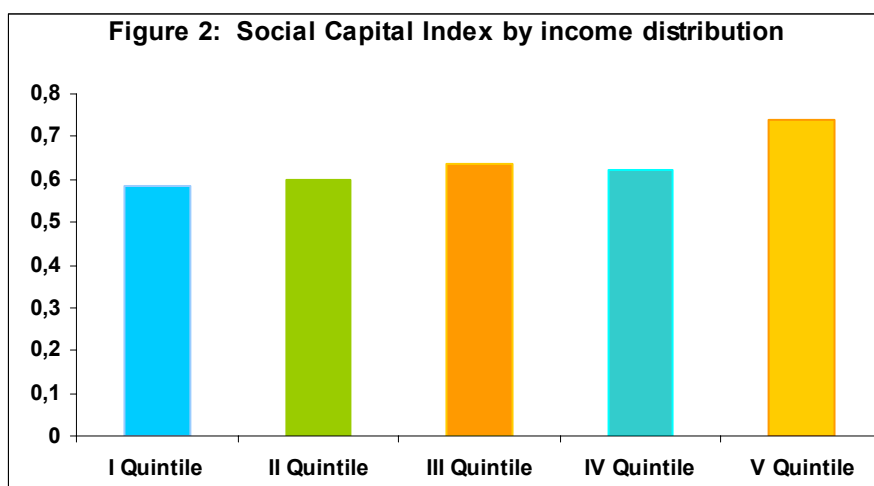


Table 12: Correlation - Social Capital Index and Income

Correlations			
		ICS	INCOME
ICS	Correlation Coefficient	1	0.445**
	Sig. (2-tailed)	.	0.00000100
	N	297	297
INCOME	Correlation Coefficient	0.445**	1
	Sig. (2-tailed)	0.00000100	.
	N	297	297

**Correlation is significant at the 0.01 level (2-tailed).

Social Capital and household welfare

In this section we estimated empirically the impact of social capital on household welfare in Chacao.

We used a reduced-form model, which is an adaptation of the model used in a study by Grootaert and Narayan (2001) that estimated the effect of social capital on welfare of household in counties in Bolivia.

The data set for this estimation comes from 297 household surveys, conducted in Chacao County.

The variables considered in the estimation of the regression model were:

Household income: this variable corresponds to monthly income declared by respondents in the survey questionnaire.

Human Capital Index: show the level of educational achievement of each adult in the household and the number of years of education was imputed from that information. This index varies between 0 and 1.

Social Capital Index: we used the index specified in the previous section. The key feature of this model is the assumption that social capital is really capital. Social capital has many capital features: it requires resources to be produced, and it is object to accumulation and decumulation.

Household endowment of other assets: data of the ownership of certain assets was added in this index which varies in a scale between 0 and 1.

The reduced-form model relates household income directly to the exogenous asset endowment, human capital and social capital in the following estimating equation:

$$\text{Ln}l_i = \beta_0 + \beta_1 \text{ICS}_i + \beta_2 \text{ICH}_i + \beta_3 \text{IAF}_i + u_i$$

Where:

- l_i = Household income of household i.
- ICS_i = Social capital index of household i.
- ICH_i = Human capital index of household i.
- IAF_i = Endowment of other assets of household i.
- u_i = Error term.

The natural logarithmic of household income (LnI) is used to eliminate the variation of flows and to smooth trend.

The regression coefficients were estimated by Ordinary Least Squares (OLS) method for 297 observations.

In order to obtain a valid interpretation of the regression coefficients, we tested fulfillment of the model's assumptions. The tests confirmed that the

model does not have autocorrelation, heteroscedasticity or multicollinearity (see Annex B).

Table 13 shows the OLS regression results.

Table 13: Coefficients - OLS Regression						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	12.7943	0.1475		86.7638	0.0000
	ICS	1.7691	0.1795	0.4677	9.8545	0.0000
	ICH	0.2718	0.1035	0.1443	2.6265	0.0091
	IAF	0.7956	0.1477	0.2952	5.3856	0.0000
		Sum of Squares	df	Mean Square	F	Sig.
	Regression	20.1669	3.0000	6.7223	61.0229	0.0000
	Residual	32.2770	293.0000	0.1102		
	Total	52.4439	296.0000			
	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
	0.6201	0.3845	0.3782	0.3319	1.6941	
a. Predictors: (Constant), IAF, ICS, ICH						
b. Dependent Variable: LNI						

The results indicate that the coefficients for the independent variables are positive and significant at the 1% level. The F-statistic value for the goodness of fit of the model imply that the model fits the data better than the intercept only model and the variables are jointly significant in explaining household income and also confirm the stability of the coefficients to changes in specifications.

The independent variables explain 38% of the variance in household income. This value of R-squared adjustment is satisfactory, taking into account that is series of cross section data.

The results indicate that an increase of 1% on the Social Capital Index is associated with a 47% increase in household income. These results are consistent with empirical studies made in Bolivia, Burkina Faso and Indonesia.

Table 12 indicates that an increase of 1% on the Human Capital Index increases the household income by approximately 14%. This suggests that the returns to education are of less magnitude to the returns of social capital. The

coefficient of endowment of assets indicates that its effect on household income is inferior to social capital, but superior to human capital.

Thus, on balance, this study found compelling empirical evidence that social capital makes a significant contribution to household income, over and above that stemming from human capital and other household assets.

It is important to warn about that effect on income of human capital is lower than that of social capital and household assets. A possible explanation is that the returns of education require more time to become effective and depend on other related factors, e.g., labor market factors. Moreover, strictly speaking the coefficient of human capital cannot be interpreted as the returns to education because we do not employ the standard Mincerian formulation of the human capital model. The term "return" is used here to indicate the partial effect of a one unit increase in the stock of human or social capital on household income.

The channels through which social capital affects welfare includes several related elements, such as information sharing, collective action and decisionmaking, and reduction of opportunistic behavior. These mechanisms create opportunities to improve welfare, which it benefits individuals and community as a whole.

Finally, it is important to notice that the results of this study in Chacao County are consistent with empirical studies made in Bolivia, Burkina Faso and Indonesia.

CONCLUSIONS

In this paper we implement a methodology to measure social capital for Chacao County in Caracas, Venezuela, and using household survey we determine the impact of social capital on household income. We measured social capital along five dimensions: perception of the local area, civic

engagement and participation, social networks, social support and reciprocity and trust.

As for the perception of the county, the results indicate that habitants have a positive vision of Chacao County and enjoy living there. This suggests that in the county exists a favorable environment for the development of social life, which allows its habitants to be related between them, and to fortify practices of “sociability”. This aspect has an important incidence in the way individuals are related to each other, their disposition for the collective action and their relation with the community as a whole.

Civic engagement and participation in Chacao were not satisfactory. The participation of citizens is not absolutely active and the associative strength is reduced. This fact has important implications, since; membership to organizations constitutes the most important source of bonding social capital and bridging social capital. The low participation in associations can be a common phenomenon for all habitants of Venezuela and can be related to the political, economic and social environment.

When we were analyzed social networks concluded that in Chacao County exists a habitual relational net formed by networks of friends and relatives. Social networks have special importance in low income groups, since it become a necessary condition for reciprocal interchange. Moreover, geographic proximity of the networks in Chacao guarantees establishment of reciprocity relations.

Results of social support demonstrate that the citizens of Chacao County have strong and opportune sources of social support. This fact has important implications for social capital. While degree of interdependence between individuals is elevated, density of social networks is increased generating high levels of group cohesion, essential condition for creation of social capital.

As for the local trust and reciprocity, the results demonstrated that habitants of Chacao County show high levels of reciprocity and average levels

of trust. In terms of social capital, reciprocity is an attribute that makes more efficient community through cooperation and trust. The level of trust can be considered satisfactory, taking into account that Venezuela is characterized to be one of the countries with less levels of interpersonal trust.

Finally, we can affirm that in Chacao County exists a favorable environment for development of sociability, reciprocity and trust; that is, for construction of community social capital. People that habit the county perceive it as a pleasant place, that which favors interpersonal relationships and collective action.

However, organizational net in Chacao is not sufficiently dense like generating relationships that rebound beyond local context. Also, the weakness of interpersonal trust constitutes a threat for the sustainability of social capital in Chacao.

This study found compelling empirical evidence that social capital makes a significant contribution to household income, over and above that stemming from human capital and other household assets. These effects are materialized through information sharing; improve collective action and decisionmaking, and reduction of opportunistic behavior and transaction costs. These mechanisms create opportunities to improve welfare, which it benefits individuals and community as a whole.

Our findings indicate that some aspects of social capital, such as interpersonal trust and cooperation, are clearly desirable themselves. Therefore, it is understood that the share capital must be part of the policy and a strategy to promote it. Our findings also support a policy by governments and non-government organizations to invest in social capital, either directly or indirectly.

It is necessary to notice that conclusions and recommendations derived from this study are based on a developed tool to measure an intangible concept, which implies uncertainty. As we know, measure social capital it is a

complex task and a methodological challenge, although imperfect, this measure could help in the diagnostic of the state of social capital in a given community, and in the design of public policies that aim at improving and increasing social capital.

In summary, the most recurrent message that arises of this study is that social capital constitutes an opportunity to mobilize resources to increase well-being; that social capital is doesn't exist in an isolated context and that nature of the relationships inside the community are the key to understand the perspectives for development.

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II. SOCIAL CAPITAL MODULE

1. How long have you lived in this municipality?

⇒ (If is less than 1 year, go to Q.2)

2. How many months have you lived in this municipality?

3. Would you say this is a municipality you enjoy living in?

1. Yes
2. No
3. Don't know

Thinking generally about what you expect of local services, how would you rate the following:

4. Social & leisure facilities for people like you

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

5. Facilities for young children up to the age of 12

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

6. Facilities for teenagers (those aged 13 to 17)

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

7. Rubbish collection

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

8. Local health services

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

9. Local schools, colleges and adult education

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

10. Local police service

- | | |
|--------------|---------------|
| 1. Very good | 4. Poor |
| 2. Good | 5. Very poor |
| 3. Average | 6. Don't know |

11. What is your main form of transport?

1. Car/motorcycle/moped
2. Public transport (i.e. buses and subways)
3. Cycling
4. Walking
5. Other
6. Never goes out

12. Would you say this area has good local transport for where you want to get to?

1. Yes
2. No
3. Don't know

13. How safe do you feel walking alone in this area during daytime? Do you feel ...

1. Very safe
2. Fairly safe
3. A bit unsafe
4. Very unsafe
5. Or do you never go out alone during daytime?

14. How safe do you feel walking alone in this area after dark? Do you feel...

1. Very safe
2. Fairly safe
3. A bit unsafe
4. Very unsafe
5. Or do you never go out alone during after dark?

15. Thinking of the same local area ... Would you say that you are well informed about local affairs?

1. Yes
2. No
3. Don't know

16. Do you feel you can influence decisions that affect your area?

- 1. Yes
 - 2. No
 - 3. Don't know
-

To what extent do you agree or disagree with the following statements?

17. By working together, people in my neighborhood can influence decisions that affect the neighborhood.

- 1. Strongly agree
 - 2. Agree
 - 3. Neither agree nor disagree
 - 4. Disagree
 - 5. Strongly disagree
 - 6. Don't have an opinion
-

18. Local newspapers are a reliable source of information about local issues.

- 1. Strongly agree
 - 2. Agree
 - 3. Neither agree nor disagree
 - 4. Disagree
 - 5. Strongly disagree
 - 6. Don't have an opinion
-

19. Have you been involved in any local organization over the last three years?

- 1. Yes
 - 2. No ⇒ (go to Q. 21)
-

20. In the last three years, have you had any responsibilities in this (these) organization(s), such as being a committee member, raising funds, organizing events, doing administrative work, etc?

- 1. Yes
 - 2. No
-

Still thinking about the same area, can you tell me how much of a problem these things are.

21. The speed or volume of road traffic

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

22. Parking in residential streets

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

23. Car crime

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

24. Rubbish and litter lying around

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

25. Dog mess

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

26. Vandalism

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

27. Level of noise

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

28. Teenagers hanging around the streets

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

29. Alcohol or drug use

- 1. Very big problem
 - 2. Fairly big problem
 - 3. Minor problem
 - 4. Not at all a problem
 - 5. It happens but is not a problem
 - 6. Don't know
-

30. In the past 3 years, have you taken or considered taking any of the following actions in an attempt to solve a local problem? (Mark all that apply)

- 1. Written to local newspaper
- 2. Contacted the appropriate organization to deal with the problem
- 3. Contacted a councilor or mayor
- 4. Attended a protest meeting or joined an action group
- 5. Thought about it, but did not do it
- 6. None of these

31. Have you personally been a victim of any of the following crimes in the past year? (Mark all that apply)

- 1. Theft or break-in to house or flat
- 2. Theft or break-in to car parked in the area
- 3. Personal experience of theft or mugging in the area
- 4. Physical attack in the area
- 5. Discriminatory attack in the area (verbal or physical)
- 6. None of these

Now I would like to ask you a few questions about your neighborhood.

32. Would you say that you know...

- 1. Most of the people in your neighborhood
- 2. Many of the people in your neighborhood
- 3. A few of the people in your neighborhood
- 4. Or that you do not know people in your neighborhood?

33. Would you say that you trust...

- 1. Most of the people in your neighborhood
- 2. Many of the people in your neighborhood
- 3. A few of the people in your neighborhood
- 4. Or that you do not trust people in your neighborhood?

34. Would you say this neighborhood is a place where neighbors look out for each other?

- 1. Yes
- 2. No
- 3. Don't know

35. In the past 6 months, have you done a favor for a neighbor?

- 1. Yes
- 2. No
- 3. Just moved into the area

36. And, in the past 6 months, have any of your neighbors done a favor for you?

- 1. Yes
- 2. No
- 3. Just moved into the area

The next few questions are about how often you see or speak to your relatives and friends. Not counting the people you live with, how often do you do any of the following?

37. Speak to relatives on the phone

- 1. Every day
- 2. 5 or 6 days a week
- 3. 3 or 4 days a week
- 4. Once or twice a week
- 5. Once or twice a month
- 6. Once every couple of months
- 7. Once or twice a year
- 8. Not at all in last year

38. See relatives

- 1. Every day
- 2. 5 or 6 days a week
- 3. 3 or 4 days a week
- 4. Once or twice a week
- 5. Once or twice a month
- 6. Once every couple of months
- 7. Once or twice a year
- 8. Not at all in last year

39. Speak to friends on the phone

- 1. Every day
- 2. 5 or 6 days a week
- 3. 3 or 4 days a week
- 4. Once or twice a week
- 5. Once or twice a month
- 6. Once every couple of months
- 7. Once or twice a year
- 8. Not at all in last year

40. See friends

- 1. Every day
- 2. 5 or 6 days a week
- 3. 3 or 4 days a week
- 4. Once or twice a week
- 5. Once or twice a month
- 6. Once every couple of months
- 7. Once or twice a year
- 8. Not at all in last year

41. Speak to neighbors

- 1. Every day
- 2. 5 or 6 days a week
- 3. 3 or 4 days a week
- 4. Once or twice a week
- 5. Once or twice a month
- 6. Once every couple of months
- 7. Once or twice a year
- 8. Not at all in last year

42. Apart from the people you live with, how many relatives that you feel close to live within the municipality?

- 1. One or two
- 2. Three or four
- 3. Five or more
- 4. None

43. How many close friends live within the municipality?

- 1. One or two
- 2. Three or four
- 3. Five or more
- 4. None

I am going to read a list of situations where people might need help. For each one, could you tell me if you would ask anyone for help?

44. You need a lift to be somewhere urgently. Could you ask anyone for help?

- 1. Yes
- 2. No ⇒ (go to Q. 46)
- 3. Don't know

45. Who you would ask for help?

- 1. Husband/ wife/ partner
- 2. Other household member
- 3. Relative (outside household)
- 4. Friend / neighbor
- 5. Voluntary or other organization
- 6. Other
- 7. Would prefer not to ask for help

46. You are ill in bed and need help at home. Could you ask anyone for help?

- 1. Yes
- 2. No ⇒ (go to Q. 48)
- 3. Don't know

47. Who you would ask for help?

- 1. Husband/ wife/ partner
- 2. Other household member
- 3. Relative (outside household)
- 4. Friend / neighbor
- 5. Voluntary or other organization
- 6. Other
- 7. Would prefer not to ask for help

48. You are in financial difficulty and need to borrow Bs.100.000. Could you ask anyone for help?

- 4. Yes
- 5. No ⇒ (go to Q. 50)
- 6. Don't know

49. Who you would ask for help?

- 1. Husband/ wife/ partner
- 2. Other household member
- 3. Relative (outside household)
- 4. Friend / neighbor
- 5. Voluntary or other organization
- 6. Other
- 7. Would prefer not to ask for help

50. If you had a serious personal crisis, how many people, if any, do you feel you could turn to for comfort and support? (RECORD NUMBER 0..15 IF MORE THAN 15 CODE AS 15)

51. How many of these people live within the municipality? (RECORD NUMBER 0..15 IF MORE THAN 15 CODE AS 15)

III. HOUSEHOLD ECONOMY MODULE

52. What is your normal monthly expenditure for:

	Monthly amount (Bs.)
1.Food	
2. Education	
3. Health	
4. Services (water, phone)	
5. Other payments for maintenance	
6. Entertainment	
7. Others	

COMMENTS:

53. At how much would you estimate the monthly income of your household?

(Monthly amount)

54. Did your household receive any cash income from these different sources of income? (Mark all that apply)

1. Wages	
2. Business	
3. Rents / Interest payments	
4. Pensions	
5. Remittance	
6. Others	

55. Does the household own any of the following? (Mark all that apply)

1. Car	
2. Motorcycle	
3. Bicycle	
4. Color T.V	
5. Telephone	
6. Radio / Audio system	

7. Refrigerator	
8. Cooking	
9. Microwave oven	
10. Washer	
11. Dryer	
12. Computer	

56. How many times at year you travel for vacations?

1. Inside the country 2. Outside the country