

## HUMAN CAPITAL AND RELATIONAL CAPITAL AS SOURCES OF EFFECTIVE PARTICIPATION IN CROSSBORDER COOPERATION PROGRAMS

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### Abstract

Cross border and transnational cooperation represents a source of knowledge and inputs for local development. Especially for less developed areas, these programs integrate the local and national public funding that, year by year, become lower. Meanwhile, the EU is setting new strategies that will probably take part in cooperation programs which are more difficult for organizations unable to build cooperative relationships strongly based on effective know-how, a larger territorial base (locally), well documented and motivated programs and projects. Future co-operators will need solid backgrounds, a fair amount of trained human capital, a strategic perspective and a good capacity to transfer the local operators' and SMEs' needs in transnational projects and vice-versa. Assets like updated information, experience, linkages with the social and economical tissues will be crucial in determining successful projects and follow-ups for both private and public agencies. Investments/stocks in both human capital and relational capital will increase their relevance compared to other forms of capital (financial and physical). We use statistics to make inference and to test this main hypothesis and several descending others, investigating the abilities of Local Action Groups (LAGs), in applying to cross-border and transnational cooperation programs, and in building project proposals. Our paper represent a proposal, a work in progress aiming at studying and verifying the existence of a correlation between social capital (SC), network and transnational cooperation programs. The selected territory is a region of a Southern Italy - the Apulia region - the Italian 'heel', whose 25 LAGs cover the whole region and include all Apulia provinces. Our work ends up with a set of insights about the behavior of these organizations useful to deepen the knowledge about the real role they can play in fostering and exploiting the corresponding territories.

**Keywords:** *Social Capital, Rural development, LEADER approach, Transnational cooperation, LAG*

### Introduction

The integrated approach and the aggregation and cooperation among the different chain parties, countries or areas/territories are the main factors to increase the value added and the competitiveness of the rural sector thus helping to create social capital (Alfano *et al.*, 2008). In fact, a crucial role is assigned to the local social capital to promote and to implement activities in local communities by planning processes aimed at increasing the value of resources (Helfat *et al.*, 2007, 2010). The principle of territorialization of regional interventions can represent a relevant opportunity for the implementation of development strategies and to adopt transnational and interregional programs, which are essential in fostering the development of relationships and networks (Contò *et al.*, 2012). Participating in a network means for the Social capital and for a firm, especially small or medium, to access

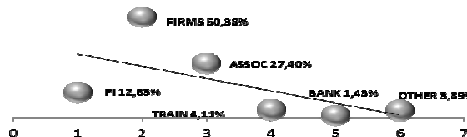
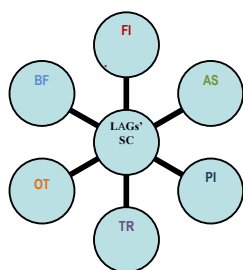
the know-how that alone would not be able to achieve, and improve, therefore, their competitive advantage. The phenomena of relocation of production, internationalization of enterprises, transnational business networks, have led to interpret the "space" not as a source of cost, but as a development factor, in a perspective of hierarchy and networks between areas (ibidem). The Leader approach (National Rural Network, 2010) is in particular characterized by the concept of multi-sector strategy, based on the interaction between parties and projects of different sectors of the local economy and on the implementation of innovative approaches, cooperation projects, networking of local partnerships. The cooperation among countries and commitment of all stakeholders from the early stages of preparation, implementation and support from both central and local government levels are fundamental for the realization and success of the Rural Agribusiness Development (RAD) programs objectives (Irianto, 2011). If the local social capital participates in a transnational and not only national network, it will be able to access the know-how that alone would not be able to achieve in special way when the rural sector, in particular, is going through a strong crisis; so, thanks to the 'relational capital', both new cognitive resources become available, such as information and trust, thus allowing the actors to achieve unattainable goals (Lippert and Spagnolo, 2006; Gintis and Khurana, 2007; Aoki, 2007). The role of social networks and social capital determining the success of locally rooted productive organizations, which adopt organic agriculture, has been also investigated showing a positive relationship (Casieri *et al.*, 2008; Kroma, 2006). To operate in an evolving market, as a source of many opportunities but also of new risks, we need tools such as training, counseling, community life and we should be member of a network (Contò *et al.*, 2011) and the social capital reflects the ability of community members to participate, cooperate, organize and interact (Kibbutz, 2005). Social capital is not only a set of norms and informal rules but networks that enable cooperation, trust, and collective action for the common good. Social capital does not arise in an instant. It is a product of social (multi-agent) interaction (Yiheyis *et al.*, 2007). Therefore, these social capital variables could act as important predicting factors thus determining the adoption and utilization of RDPs programs (Firouzaie *et al.*, 2007) in an efficient way. Since the nineties, a new scenario in the field of local development has gradually affirmed based on finding a new form of competitiveness of the regions, especially the rural ones. In this context, the Leader Community Initiative, launched in 1991, was based on a partnership approach, multi-sectoral and integrated development of rural areas. The strategies start from the local (bottom-up approach) and are implemented by public-private territories: the Local Action Groups (LAG). Thus, the local actors become the main actors in their development (governance). Over several planning periods, LEADER has shown first, with the Leader I (1991-1993) an innovative model of local governance. With the Leader II (1994 - 1999) the Regional Leader Programs (FDP), transnational and national networks, in addition to the European Network for the promotion of innovative measures in rural areas, were introduced. With the Leader Plus (2000-2006), the Local Development Plans (LDP), by the GAL, have been introduced to improve and enhance the use of natural and cultural resources, to improve the quality of life in rural areas, to promote the value added of local products, to increase the competitiveness of products and services in rural areas and to promote cooperation between States. The LAGs are composed of both private and public partners, thus gathering a balanced and representative set of the different socio-economic local stakeholders. In Apulia region, their actions involve almost entirely, at least for inland areas, the regional territory. The added value of Leader ordinary policies of rural development derives from the set of challenges and opportunities that arise from the same rural areas. It aims to an economic growth in rural areas through the implementation of strategies aimed at encouraging and developing the ability to generate local production systems, to initiate cooperative relationships between local actors and development of territories. The Leader is the tool that aims to facilitate the aggregation, strengthen social

networks and institutional development, to facilitate the construction of an integrated regional development project, negotiated and shared. To this end, cooperation within the Leader was introduced to add value to local development actions through the exchange of know-how and joint actions on issues which are common to most rural areas. The need for cooperation arises in the Community context, the necessity of European regions to implement the cohesion between the territories (National Network for Rural Development, 2008, 2009, 2011; Zumpano, 2001), and to pool resources for achieving better results, thereby strengthening the impact and effectiveness of local development. Leader cooperation passes the condition of marginality and isolation of rural areas, facilitating the sharing of knowledge, experience, local knowledge and promoting socio-cultural enrichment of the rural population. Compared to Leader II, the Leader Plus interterritorial cooperation between rural territories belonging to the same Member State and the strengthening of transnational cooperation is introduced, providing the opportunity to cooperate with non-EU countries. In the framework of Axis IV of the Leader approach, in their regional rural development Programmes (PSR) 2007/2013, measure 421 was created with the objective to promote and support cooperation between local areas through the development and implementation of joint projects of transnational and interregional cooperation. Through the application of this measure it is possible to sustain its territories in terms of critical mass; also to support the introduction of innovation and diffusion of knowledge and skills developed and exploited in other places can find further enrichment by comparison and implementation of integrated projects on topics which are common at all territories.

### Materials and methods

Our dataset includes data by the Local Development Plans (LDP) of the 25 LAGs of Apulia Region that cover the whole region. The study was developed over 4 months of work to capture all data relative to social capital, to transnational projects, financial assets and main characteristics of area of influence. The dataset was structured in several sections; the first section includes 2.237 observation about LAGs' social capital, and it was divided into 13 categories. As shown in the diagram below, the 13 groups are grouped by analogy in 6 general sectors (graphs 1-2):

1. *Public Institutions* (PI) formed by 3 groups: Municipalities, Provinces and other Institutional public subjects – like Park Authorities, Mountain Communities, Chambers of Commerce and so on).
2. *Firms* (FI) formed by Farms, Consortiums and Productive cooperatives categories.
3. *Associations* (AS) formed by trade associations, cultural and social promotion associations, cooperatives in the tertiary sector.
4. *Training* (TR) formed by Universities, Departments and Research centres.
5. *Banks and financial Institutions* (BF).
6. *Others* (OT) that include e.g. Foundations, nature reserves, Management Committee, individuals, agro-technician provincial colleges and so on.



Figures 1-2: The SC of LAGs (structure and percentage)

Source: our processing of data from PSL of LAGs (2009/10).

The figure highlights the sectors and their respective percentages: firms represent the 50% of the SC, followed by AS (27.40%) and PI (12.83%). The second part describe and develop the data concerning the topic of investigation that is the transnational projects individuated at preliminary level in the RDP of LAGs. The transnational projects of all 25 LAGs are in total 68 that is 2.72 projects for every LAG on average. Those ones at local and inter-territorial level are 39 so the average value is only 1.56.

The financial assets of the 25 LAGs are quite unevenly distributed with a small percentage of LAGs owing more that 200,000.00 Euros and the larger share with around 120,000.00 Euros. We could then expect that assets cover a role in determining successful acceptance, so that it would be better to consider the influence of other variables (as SC) separately for these two subgroups. High variability can be observed also in the bureaucratic area of influence of each LAG, as well as for the number of firms that appear in the list of the LAGs' memberships. Variation occurs, anyhow, in most of the different types of members, thus suggesting quite a variation in the composition of each LAG's membership. This information covers for us a great deal of interest since it makes it reasonable to expect that exploring how different memberships works out an organizational framework, would stem different SC (relationally based) assets that, in turn, could be useful to explain different output levels.

Social Capital is here assumed to positively influence planning strategies and acceptance in transnational cooperation partnerships, when resulting from a process rooted on networking activities. The LAGs, in their formal nature of private corporation as well as in their mission of enhancing local development, should build the social capital of the local communities they belong to. Reading the National Strategic Plan in fact, the guideline for each regional Rural Development Plan, the LEADER Approach results have been strengthened, especially in its role of enhancing the local governance and boosting endogenous development. The LAGs, thus, play a determinant role both in managing, planning and fostering efficient resource allocation and bottom-up development. The constitution of a local partnership, representative of both the stakeholders and the civil society, is the bet that each LAG need to win. Nonetheless, the LAGs need to be contemporary rooted in their respective territory and to be networked at a larger scale with a variegated set of actors, primarily LAGs in the same region, but also peer organizations out of the regional boundaries.

Networking activities for a developing agency should be considered as one of the main daily task able to amplify the chances to intercept and relocate resources, opportunities and planning. Also, networking is becoming crucial for two main reasons: (1) larger public funding requires larger partnership built up taking into account both territorial representativeness and competencies complementarities; (2) the emphasis on the bottom up approach poses the relevant topic of acceptance of any project proposal, mainly for those with higher environmental, economic and social impact. Successful LAGs should be able to create consensus among local stakeholders and population and, on the other hand, to interface with several larger scale actors, both locally, nationally and in the abroad, such as regional governments, external entrepreneurs, experts and professionals, research and educational institutes, development agencies, policy makers, lobbyists, etc. and, last but not least, other LAGs. Cooperation, then, becomes crucial. The spread of information, experiences and know-how among rural territories belonging to national or EU contexts is a positive principle that has been kept and enforced by the latest programming season, and the innovations introduced relate mainly the experience exchange procedures, so to ameliorate effectiveness and efficacy of cooperation (Franceschetti *et al.*, 2009).

We here propose an analytical tool to map out and evaluate the LAGs ability in cooperation and building consensus, and to investigate which features affects such intangible

efforts. In our case study, consensus relates to the inclusion in transnational cooperation partnerships that, although potentially one of the best available solutions for sustainable local development, present several issues when coming at the point. We propose here to explain (or better, regress) any measure of acceptance (*e.g.* share of approved projects that did not provoke a negative reaction from the local population) with the presence of SC in the corresponding local communities. To solve for the role of other variables that may have influence on successful projects, and to isolate the role of SC, we propose a wider idea of Capital to be measured for each territory, that comprehends human capital (HC), financial capital (FC), infrastructures and facilities capital (IC, that also includes natural heritage), social capital (SC):

$$C_{\text{tot}} = \text{HC} + \text{FC} + \text{IC} + \text{SC}$$

While it is easy to get a measure of FC and of the non-natural components of IC, it is more difficult to grasp a valid value of the other components. Also, there is the issue related to how adding up such different measures. One solution, may reside in asking to assign a score related to the relevance of each component within the LAG activity, taking into account that all the scores have to sum up to 100. Otherwise, the researcher may assign the score after surveying each of the components. Anyhow, a great effort should be paid to solve for this scoring procedure to avoid subjectivity. As for the measure of SC, we suggest to use several kinds of variables. The first is a completeness score (table 1), that refer to the idea that the set of members of each LAG should represent the same composition of the civic society it belongs to. Given the previously listed 13 member categories the score is then calculated as the complement to 100 of the percentage of missing categories in its membership's composition. To have a more precise measure, the score should be somehow normalized for the real composition in the 13 categories of the territory each LAG belongs to. Secondly, we propose the calculation of a set of indexes using social network analysis applied to the network of co-memberships in local public financed projects, as proxies of the ability of networking of each LAG. The indexes here proposed are mainly those that refer to centrality and brokerage, although many other network measures can be used to trace out a qualitative picture of the LAGs' networking activities and effectiveness. We performed this analysis over the 25 aforementioned LAGs.

In order to understand if there is a variation in social capital among LAGs, so to make it reasonable to look for any cause-effect relationship when exploring the role of SC in determining successful acceptance in transnational cooperation partnerships, we firstly observed the 25 LAGs' *egonetworks*, recalling that an *egonetwork* is the net of *alters* to which an *ego* is connected with one-step relationships.

Table 1: LAGs' completeness scores.

<b>LAGs</b>	<b>Completeness score</b>	<b>LAGs</b>	<b>Completeness score</b>
Luoghi del Mito	100.00	Ponte Lama	81.82
Meridaunia	100.00	Sud Est Barese	81.82
Colline Joniche	100.00	Terra dei Messapi	81.82
Piana del Tavoliere	100.00	Terra dei Trulli e di Barsento	81.82
Terre di Murgia	100.00	Terre del Primitivo	81.82
Valle d'Itria	100.00	Valle della Cupa	81.82
Terra d'Arneo	90.91	Daunia Rurale	81.82
Serre Salentine	90.91	Fior d'Olivì	81.82
Terra d'Otranto	90.91	Daunofantino	63.64
Alto Salento	90.91	Murgia Più	63.64
Gargano	90.91	Capo Santa Maria di Leuca	54.55
Le città di Castel Monte	90.91	Isola Salento	54.55
Conca Barese	90.91		

Source: our processing of data from PSL of LAGs (2009/10).



Table 2: Clique-by-Clique Actor Co-membership matrix

1 2 3 4 5 6 7	HIERARCHICAL CLUSTERING OF OVERLAP MATRIX
-----	Level 1 2 3 4 5 6 7
1 17 12 11 9 9 10 4	-----
2 12 13 9 10 7 7 3	12.000 XXX.....
3 11 9 12 10 10 9 3	10.000 XXXXX.XXX.
4 9 10 10 12 8 7 3	9.667 XXXXXXXX XXX.
5 9 7 10 8 11 10 4	8.375 XXXXXXXXXXXXX.
6 10 7 9 7 10 11 5	3.667 XXXXXXXXXXXXXXXX
7 4 3 3 3 4 5 6	

Source: our processing on data by PSL of LAGs (2009/10).

### Results and discussion

Finally, we tested our main hypothesis, exploring the relationships between the network indexes and the number of successful participation in transnational cooperation partnerships. All the above mentioned indexes were tested, excluding those that made no sense for our hypothesis, and we mainly focused on centrality (mainly betweenness) and brokerage, following the Ronald Burt's theory of structural holes. The indexes were tested against some variables that we considered as well influential over our dependent variable (*TotProgTrans*), namely amount of start-up financial capital (*capsoc*) and the completeness score (*compl*), and against the number of successful local project partnerships (*TotProgNotTrans*). Future researches should consider any measure of human capital at least. We then looked at Simple pair-wise correlations (tab. 3). As shown in the table the number of local projects is strongly, significantly and – moreover – negatively correlated to the independent variable, as well as by brokerage (*broker*), egobetweenness (*egobet*). This set of variables presents also some inner correlations, thus inducing to fear multicollinearity. No more correlations are noticed. Running the aforementioned model, the overall result is fairly satisfactory as it explains the 60 of the variance and it is statistically significant (tab. 4). Nonetheless, the observation of results in terms of coefficients is quite weak, since only financial capital and the complementarily score show some statistical significance.

Table 3: Simple pair-wise correlations.

	TotProgNotTrans	TotProgTrans	broker	nbroke	egobet	negobet	betweenness	nbetweenness	compl	capsoc
TotProgNotTrans	1									
TotProgTrans	-0.6090*	1								
Broker	0.8502*	-0.5196*	1							
Nbroke	0.8116*	-0.4639*	0.9561*	1						
Egobet	0.7881*	-0.4382*	0.9603*	0.9205*	1					
Negobet	0.7330*	-0.34	0.8897*	0.9409*	0.9462*	1				
betweenness	-0.12	0.13	-0.07	-0.06	-0.02	0	1			
nbetweenness	-0.12	0.13	-0.07	-0.06	-0.02	0	1.0*	1		
Compl	0.09	-0.21	0.04	0.04	0.06	0.06	-0.17	-0.17	1	
Capsoc	0.3	0.12	0.33	0.28	0.32	0.24	-0.05	-0.05	0.38	1

Note: \* indicate 95% significance level.

Table 4: Econometric Results.

TotProgTrans	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
TotProgNot~s	-0.4	0.23	-1.72	0.1	-0.89	0.09
Capsoc	0	5.24E-006	2.86	0.01	3.99E-006	0
Compl	-2.63	1.19	-2.22	0.04	-5.13	-0.14
broker	-0.06	0.04	-1.46	0.16	-0.15	0.03
egobet	0.34	0.26	1.32	0.21	-0.2	0.88
betweenness	-0.01	0.07	-0.13	0.89	-0.16	0.14
_cons	4.13	1.04	3.96	0	1.94	6.32

Source of Variance	SS	df	MS
Model	13.98	6	2.33
Residual	9.06	18	0.5
Total	23.04	24	0.96
Number of obs = 25		F(6, 18) = 4.63	
R-squared = 0.61		Prob > F = 0.01	
Adj R-squared = 0.48		Root MSE = 0.71	

### Conclusions

As results of our analysis, we can clearly state that variation in the LAGs' membership composition and completeness index suggest a variation in the LAGs' SC level. Selecting one network that could work as proxy for relational-based SC, as the co-membership in public founded projects, variation occurs at individual level mainly in the brokerage index calculated within each singular egonetwork. Network level analysis, also, suggests that the Apulian LAGs work locally forming small groups, neatly distinguished and hierarchically clustered, and that it is more worth to consider this level of analysis, other than individual network features.

Nonetheless, there is no functional relationship between ability in local project development (as expressed by centrality or brokerage in the network of co-membership in local projects) and the number of transnational projects implemented. This results may depend on several reasons:

- successful participation in the two different kind of projects requires to activate different relationships and networks;
- if the above is true, it could lead to think that:
- the key players (as well the game rules) that facilitate transnational partnerships are different depending on the local partnerships;
- the LAGs "bowl alone" – as Putnam would say - when targeting larger scale projects, instead of sharing a common view or plan;
- successful participation in transnational projects depends on other assets, such as human capital, financial capital or both;
- issues related to the available data: time stacked data may lead to different results;
- two or more of the above reasons.

Finally, a further analysis that may help to deepen the details of relational dynamics as opposed to commonly used inference models, may reside in regressing the network of project cooperation over the network of formal and informal relationships that each LAG builds during its lifelong activities, in a time series fashion, so to better grasp the dynamics. The formal and informal relationships can be surveyed combining desk analysis (*e.g.* analysis of board of directors, list of associates, etc.) with direct survey using a dedicated questionnaire.



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