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"The Causal Nexus Between Social Capital and Local Development in Mountain Rural Greece"

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ABSTRACT

The primary aim of this paper is to analyze the components of individual social capital in two rural mountain areas in Greece. The paper also aims to develop an empirical model to investigate the causal relationship between social capital's different dimensions and the "quality" of local socio-economic development in Greece's rural mountain areas. Due to the complex nature of the social capital concept, the scope of inquiry was based on two different case study areas, in order to enable a more compelling and robust interpretation of the information collected. A questionnaire containing 100 items was administered to approximately 318 citizens in these areas. Our results overall indicate a significant influence by the strength of family ties on the nature of social capital and socio-economic outcomes in Greek rural areas.

Keywords: Local development, social capital, rural mountain Greece

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1. Introduction

The idea of social capital has been the focus of attention in both theoretical and applied social science literature over the last decade. On the one hand, social capital appears as a multi-dimensional entity when distinguished between bonding and bridging social capital, or between paired dimensions of social capital that correspond to the indicators applied in the empirical analysis. On the other hand, social capital becomes a resource for both individuals and communities: at the individual level, social capital grants access to social control and networks at the aggregate level, social capital promotes development through the supply of other forms of capital or through the activities of a vibrant civil society, based on active citizenship and membership in social organisations, which make for democratic institutions and good governance, as opposed to strong family ties (Pichler & Wallace, 2007; DeFilippis, 2001; Woolcock, 1999; Portes, 1998; Putnam, 1993b).

The basic research hypothesis of this study is that the level of local economic development within a small rural area will be influenced by the level of social capital in the area. So the rationale underpinning the research is that socio-economic performance is explained by the presence of different (high or low) levels of social capital and the way this operates in specific national, regional and local contexts.

The empirical findings presented here are based on field research in two mountain rural areas in Greece: the mountain area of Zagori and the mountain area of Pilion. To assess the social capital profile and the dynamism of local development, a questionnaire survey containing 113 potential items was undertaken with approximately 318 adults in both areas. This was then followed up by 46 in-depth, semi-structured interviews with selected participants in both areas. The fieldwork lasted 10 months, from December 2006 to September 2007.

Starting from the assumption that both social capital and local development are multidimensional concepts, this paper aims to construct first a methodological instrument such as an integrated questionnaire suitable for the measurement of social capital and local development in the specific socio-cultural Greek context and to carry out an empirical assessment of the causal relationship connecting social capital's different dimensions to the quality of local development in Greek mountainous areas. The analysis accounts for seven social capital dimensions (feeling of isolation and existence of important differences between the citizens, trust neighbours and

key service providers, trust fellow villagers, trust local government and local government officials, reciprocity and solidarity, empowerment and informal (family) social networks) and two local development dimensions (efficiency of public health and public transport services and life expectancy and health of natural environment). Each dimension is evaluated by single, synthetic measure, built by means of exploratory factor analysis and verified with the confirmatory factor analysis performed on a dataset including multiple indicators. The casual relationship between social capital's and local development's various dimensions is then assessed through the use of structural equation models (SEMs).

The paper argues that strong family ties imply more reliance on the family as a social and economic unit - which secures the access to goods and services and provides social support, solidarity and reciprocity - rather than the market and the local government. However, we also find that although strong family ties correlate positively with happiness and life satisfaction, there is a negative correlation between strong family ties and trust and reciprocity among citizens. Overall, our results indicate a significant influence of the strength of family ties and the absence of the active citizenship in the dynamics of local development in two Greek rural areas.

The outline of the paper is as follows: section 2 briefly presents a summary of the contemporary literature that has been developed around the role of social capital as a factor of the quality of economic development. Section 3 describes the specificities and the peculiarities of the character of social capital in Greece. Section 4 is devoted to the description of data and methodology. Section 5 presents and comments results from the empirical analysis. The survey is closed by some concluding remarks and key issues revealed by the case study research.

2. Social capital as a determining factor of the quality of economic development

The concept of social capital is based on the idea that social relationships and social norms may give access to valuable resources that can improve the welfare of individuals, families, communities or even regions or nations (Fafchamps & Minten, 2002; Narayan & Pritchett, 1999; Bowles & Gintis, 2002; Knack & Keefer, 1997). However, this concept is used in different ways and with diverse meanings. At times, it refers to the capacity for cooperation, for trust and civility and therefore to a particular form of local culture (Trigilia, 2001). Voyer and Frank (2006, p.9) argue that "social capital refers to the networks of social relations that may provide individuals and

groups with access to resources and supports". It is not entirely clear who used the term first, but an important early use was by Loury (1977). More specifically, Loury argues that individuals have different levels of social capital and the development of social capital provides differing outcomes. Consequently, two people possessing a similar level of human capital may not obtain the same outcome, due to differences in the level of their social capital (DeFilippis, 2001).

However, it is the works of Bourdieu (1985), Coleman (1988), Putnam (1993) and Fukuyama (1995) that have undoubtedly contributed most to the widespread diffusion of the term 'social capital' in both academic and policy debates (Forrest & Kearns, 2001; Coleman, 1988; Putnam, 1993). Bourdieu's (1985) use of the term social capital is an explicit attempt to understand the production of classes and class divisions. Social capital, while being constituted by social networks and relationships, is never disconnected from capital. (DeFilippis, 2001, p. 783). Coleman (1988), an educational sociologist, defined social capital by its function and its role in the creation of human capital. More specifically, he defines social capital according to Loury's vision as 'the set of resources that inhere in family relations and in community social organisation and that are useful for the cognitive or social development of a child or young person'. Despite differences, Loury (1977), Bourdieu (1985) and Coleman (1988) share the view that social capital was not embodied in any particular person, but rather in people's social relationships (DeFilippis, 2001, p. 785). Furthermore, they support the idea that social capital was realized by individuals.

Another theme that is closely connected with the main aim of this study is the ways in which we can measure the civil character of a society and its available stock of social capital. Such a multidimensional notion as that of "social capital" and such a complex and manifold phenomenon as "civil society" invite a plethora of definitions and efforts to capture their "conceptual essence". Even if the concepts of social capital and civil society have become prominent in the social sciences, they remain somewhat unclear and even questionable in terms of their actual meanings and uses. Consequently, it is not so easy and possible to develop any standard and working definitions for the terms of social capital and civil society. This situation makes their empirical measurement a very difficult and a complex task.

As far as the concept of social capital is concerned, we can say that there is a plethora of social capital indicators, but a consensus on measurement indicators is still lacking. The approach adopted in this study focuses mostly

upon six main dimensions of social capital which can be typified as social and interpersonal trust, institutional trust, social cohesion & exclusion, reciprocity & solidarity, informal social networks and empowerment. We use these specific variables as key indicators in order to measure the existing stock of formal and informal social capital in both case study areas.

With respect to civic participation, there have been some debates cited that refer to the way in which participation enforces social capital either through joining civic organizations or participating in public life. According to Putnam (1994) "civic participation is essential to a thriving democracy and the advantages for the society as a whole are emphasized" (Pichler & Wallace, 2007, p. 423). Pichler and Wallace (2007) define the variable "participation in civil society" as 'formal social capital' since it involves participation in formally constituted organizations and activities. They also add to this the idea of generalized or social trust since it gives an indication of the societal level of trust (Pichler & Wallace, 2007). Finally, special attention has been given to indicators of informal social capital. To cover an array of different forms of (informal) sociability, we have taken three different measures of social network capital, for example, the frequency of contact with friends, with colleagues, and with neighbours.

At present, the relationship between social capital and socio-economic development constitutes a controversial relation, with both positive and negative interconnections and interactions. According to Sabatini (2008) there exists a significant gap in the economic literature on social capital. Not all types of social capital are seen as beneficial, and only specific dimensions of social capital might have positive effects for the human and local development.

On the one side there is a good number of studies addressing the effects of social capital on those facets of development that can contribute to making growth more sustainable in the long run, such as, for example human development and social cohesion. On the other side, it is not clear yet what type of networks may exert a positive effect on the different dimensions of development (Sabatini, 2008). More specifically, the literature has not yet provided a rigorous assessment of the role of strong family ties, which are generally referred to as a form of bonding social capital causing backwardness. In this paper we will focus more on the role (positive and negative) of strong family ties in the development of Greek mountain rural areas.

According to Woolcock (1998) social ties and especially the family ties constitutes an important source of social capital, enabling family members to provide one another with a range of services and resources ranging from job referrals, gardening equipment, and kitchen supplies to property surveillance, commuter transport, and child minding. The more intensive the social ties and generalized trust within a given community, the higher its "endowment" of (this form) social capital.

From the other side, where generalized trust extends only to immediate family members and blood relatives, a stark non-developmental reality is likely to be present. According to Sabatini (2006), "*…the negative relationship between bonding social capital and economic development proves to be biunique: not only strong family ties may hamper human development, but they also deteriorate themselves with higher levels of development*". Edward Banfield (1958) argues that "amoral familism: it is characterized by an "excess of community" built on such fierce ethnic loyalties and familial attachments that members are discouraged from advancing economically, moving geographically, and engaging in amicable dispute resolution with outsiders. Amoral familism is thus characterized by the presence of social integration but the absence of linkage. Also Banfield (1958), commenting on why economic development was hindered in Southern Italy and Sicily, argues that amoral familism can hold back a village's (and by extension a society's) prospects of economic development. According to Banfield (1958: 9-10): the "*inability of the villagers to act together for their common good or, indeed, for any end transcending the immediate, material interests of the nuclear family results in economic and social backwardness". This loyalty to family over and above all else creates a situation in which people 'maximize the material, short-run advantage of the nuclear family; and assume that all others will do likewise*". He argued that amoral familism can thus be reinforced by situations of underdevelopment. (Connor, 2007: 57-63). Also according to Pichler & Wallace (2007, p.433) " in countries where family or informal social capital predominate to a much greater extent it may be more difficult to establish a vibrant civil society of the kind described by Putnam because the culture does not allow it".

Putnam (1993) argues that social capital and civil society promote economic growth. Furthermore, according to Knack and Keefer (1997) much of the economic backwardness in the world can be explained by the existence of a lack of mutual confidence (Knack & Keefer, 1997). Moreover, they argue that low levels of trust in a society can probably discourage its processes of innovation. What is very interesting is that societies that are characterized by high levels of trust are also less dependent on formal institutions to enforce agreements. In addition, government officials in societies with higher trust may be perceived as more trustworthy, and their policy pronouncements are

seen as more credible (Knack & Keefer, 1997). The argument linking social capital with economic development is based on the premise that social capital can make other forms of capital more efficient through increasing the productivity of individuals and groups (Woodhouse, 2006; Putnam, 2000).

On the other hand, according to Trigilia, social capital does not have only positive impacts but it can also create obstacles to local development (Trigilia, 2001). Therefore, it is important to study under what conditions social capital can favour local socio-economic development.

An affluent reserve of social capital constitutes a necessary condition for the modern liberal democracy which produces a robust civil society, while low levels of social capital lead to a number of political dysfunctions. There is strong empirical evidence that low levels of social capital usually relate to ineffective local government and widespread corruption in the political life (Kingston, 2004). Political corruption is an obstacle to transparency in public life. There is no doubt that the loss of belief in politics and the lack of trust in politicians and parties challenges democratic values in every established democracy.

According to Rothstein and Stolle (2003) means–tested welfare states are more prone to corruption, abuse of power, arbitrary decisions from civil servants and bureaucrats, and most importantly systematic discrimination. The idea of impartiality is seldom met in these means-tested institutions, which are beset by systematic inequalities. It seems evident that citizens, who experience this lack of impartiality, will not develop trust in those government institutions that discriminate against them. Moreover, the experience of political officials and other citizens who promote their own interests by means of corruption or fraud as well as the own experience of discrimination prevents not only the development of institutional trust, but also the trust in other citizens. Newton (1999) argues that trust seems to be the privilege of "the winners" in society, those with ample financial, economical, cultural and educational resources. This would imply that societies that accumulate a lot of marginalized citizens, such as our case study areas, will indeed have lower trust levels, since more people have no reason to develop trust, either in their fellow citizens, in political institutions, or in society at large (Stolle and Hooghe, 2003).

This paper builds on the framework presented so far through an empirical investigation of the link between social capital and economic development in two mountainous rural areas in Greece. The research provides a comprehensive assessment of the level and the qualitative characteristics of

social capital and tries to connect these to the level of economic development in these areas. A discussion on the manner in which social capital influences economic development and some policy considerations conclude the paper.

3. The specificities and peculiarities of social capital in Greece: informal versus formal social capital and the difficulties in its measurement

The forms of social capital vary considerably across different European countries. Concerning Greece, participation in formal organizations is not so well established and is not encouraged by the state. According to Sotiropoulos (1993), Greece is widely considered as a country poor in social capital and consequently in strength of civil society, characterized primarily by a centralized and simultaneously weak central state structure. In particular, in rural areas there is a clear lack of such organizations and, thus, the rural population has fewer opportunities for participation. At the same time, what is very interesting is that because of the absence of formal civil society organizations (or because of lack of trust in them) strong family ties and networks predominate in rural Greece. People invest their energy and take 'refuge' in informal social support and informal social capital, seeking an alternative to the missing social institutions. In fact, these kinds of social ties prove to be very useful, especially in the event of life crises and risks.

The lack of trust in formal organizations encourage**s** the development of informal networks. Furthermore, this kind of reciprocity, mainly developed in rural areas, was a traditional way of managing resources during difficult historic periods and political episodes. The absence of formal social capital in rural Greek areas has been attributed to the lack of formal civil society organizations and the predominance of informal social capital. The role of the welfare state is a considerable factor which has affected the physiognomy of formal social capital and civil society in Greece. Due to a lack of adequate social support the citizens of rural areas resort to strong family ties and networks. These networks might provide an alternative form of welfare. The positive effect of the weak welfare state on the formation of strong family social capital stands as a relevant proof of Banfield's (1958) claims on the role of underdevelopment in the reinforcement of amoral familism.

Referring to the stock of social capital in Greece, we can say that there is a large deficit in the available statistical data which are essential for the measurement of its basic indicators such as the level of trust (social and institutional), and citizen participation at the local level. According to the results of the "European Community Household Panel" (ECHP, Wave 6,

1999), the levels of group membership vary considerably between countries in the EU-15 ranging from 65.1% for citizens in Denmark, to a low of 8.9% in Greece. It is thus shown that Greece presents the lowest level of group membership compared to other European countries. Moreover, there is a strong coincidence between those countries that present the lowest levels of group membership with the countries that present respectively the lower levels of per capita GDP (Christoforou, 2005).

At this point, it is very important to stress that the development of social capital in Greece has been impeded by two main factors. The first factor is related to the lack of economic and political stability, which dominates the greater part of the country's modern history and is marked by foreign conquest and intervention, waves of refugees and immigrants, as well as by the periods of civil war and dictatorship. The second factor concerns the development of civil society in the economy and politics. More specifically, the development of civil society in Greece was influenced by norms and networks based on patron-client relations, nepotism and corruption, which were unable to play a constructive role in promoting economic reform in the country (Christoforou, 2005).

Under these circumstances, Greek civic society was severely weakened, and this allowed for the emergence of social norms and networks, based on informal kinship ties or corruption and narrow-interest social groups (Christoforou, 2005). According to Lyberaki and Tsakalotos (2000): "... One of the results, which we would argue has been particularly important for the economy, is a particular expression of short-termism. Arbitrary and changing rules of the state, the clientelistic ties that are 'here today and gone tomorrow' put a premium on extracting the maximum gain from any situation as quickly as possible and make cooperation with others in horizontal relationships very risky" (p. 10).

This brings us to our second factor behind the regression of civil society, which is the persistence of clientelistic and paternalistic relations in both the private and public sector in Greece. Despite the restoration of democracy in 1974 and the steps taken towards social, political and economic reform, through the expansion of constitutional rights and legal protection, and the promotion of medium- and long-term economic programs, the development of civil society has been a very slow process (Christoforou, 2005). In the post-1974 era, according to Mouzelis and Pagoulatos (2002), new systemic/institutional imbalances were created that undermined the strength civil society was gaining. The authors observe that partisan and plutocratic elements were intensified as political parties and economically

powerful individuals continued to compete for the control of organized groups, trade-unions and nongovernmental organizations. Partisanship, in the form of favouritism (rousfeti), and plutocracy, in the form of corrupted interests (diaplekomena sumferonta), permeated Greek civil society, and this had adverse effects upon economic reform and growth (Christoforou, 2005, p. 9).

According to Christoforou (2005) "…one of the reasons why post-1974 reform and development were very slow in Greece was the low stock of social capital. A prior civic tradition of clientelism under arbitrary rule, the interference of special-interest groups and the lack of credibility and impartiality from the part of contemporary political institutions impaired the strength of the Greek civil society…" (p.9). These were factors that excluded civil society from the national reform process, and inspired its members with a sense of suspicion and distrust, which permeated all aspects of economic, social and political interaction (Schmitter, 1995).

Furthermore, it would be very useful in this point to present the results of some case studies that have been conducted in other regions of Greece and tried to assess different types of social capital on different aspects of local socio-economic development, and stress the detrimental impact of vertical networks and strong family ties on local governance and development. For example Karakoulaki (2002) analysed the role and the interaction of social and family capital in sustaining and improving the competitiveness and development of SMEs in two regions, Thessaly and Central Macedonia, in Greece. According to the empirical findings of this research, small firms, in both regions, draw support from the familial network in order to secure their survival and growth potential. In fact, this survey revealed that family capital is present and highly significant in both regions. Furthermore, Paraskevopoulos (2001) supports the idea that the local systems of governance better able to learn and adapt to changing conditions are those whose institutional structure is based on dense functional networks that combine public and private actors and have horizontal rather than a vertical structure. Based on the results of his research in the Southern and the Northern Aegean islands its was indicated that in the Southern Aegean islands prefectures an institutional structure and policy environment favourable for learning have facilitated the learning capacity of the local systems of governance. Conversely, the lack of these features in the Northern Aegean has lead to an institutional environment poor in learning which is shows some signs of improvement only within the framework of the EU structural policy.

However, a more detailed study needs to be undertaken to measure the individual and general determinants of social capital in Greece and the impact of dominant norms and networks on socioeconomic development. Previous studies discussed above raise some issues with regard to the historical and cultural context on social capital in Greece (such as familism, patron-client relations, special interest-groups, weaker formal voluntary sector combined with stronger informal networks). However, it should be further stressed that some of these issues have not been the topic of extensive, in-depth empirical analysis, which is the main contribution of this paper. In addition to this, the main contribution of this study has been related to the role and the significance of family capital within this framework of thought. In the literature it has been argued that the family life, and in general familial relationships and alliances with friends are contributing positively to the exploitation of social capital. However, by studying local development in two different regions in Greece, it has been proved that this is not always the case. Family capital is indeed an important factor which shapes and influences the level of local development. From this scope, it has a significant impact on the results of local economic policies.

4. Methodological issues and data

4.1 The study areas

The research methodology employed in this study consists of two distinctive components: the adoption of a case study approach and the use of both quantitative and qualitative methods in data collection. Due to the complex nature of social capital and civil society concepts, we thought it was necessary to have two case study areas to provide a more compelling and robust interpretation of the information collected. In selecting the rural mountain areas to study therefore, for useful comparative analysis, it was important to select areas that were similar in social, geographic and political terms to minimize the influence of these factors on economic outcomes. These areas however differed in unemployment rates, population density, real estate value, and percentage of people with a university degree. The Region of Thessaly *(the municipalities of Portaria, Zagora, Mouressio, Milies, Argalasti and the commune of Makrinitsa)* and the Region of Epirus *(the municipalities of Anatoliko Zagori, Kentriko Zagori, Tymfi and the commune of Papigo)* were the chosen case study areas for this study. With reference to the first case study area, this is well known for having an adequate resident population and economic sustainability, based on stock farming, forestry, traditional industry, tourist and vocational activities. Furthermore, the village complex of Pelion belongs to the Prefecture of Magnesia, one of the most dynamic and independent of agricultural activities, Greek prefectures,

in which population constantly rises. The second case study area includes the village complex of Zagori. This area tends to become highly isolated, since many inhabitants have migrated to urban areas; it also faces considerable environmental problems such as soil erosion, and insufficient preservation of residential properties and monuments. Zagori is the most mountainous and most isolated area in the region and has been historically difficult to access due to its mountainous terrain which contributed to its security and stability rather than being a disadvantage. Under the Byzantine Empire, the relative security of Zagori occasionally attracted groups of soldiers who built villages and settled there.

Consequently, the context of this case study provides us with the opportunity to investigate social capital in two different socioeconomic areas that make up a representative sample of the Greek mountainous rural areas. The mountainous regions in Greece cover a large part of the country, are of major environmental importance and present the lowest population density together with the highest density of villages per 100 km². From a developmental point of view and due to their geomorphological characteristics and sensitive ecosystems, the mountainous regions also present intrinsic disadvantages related to the modernization of their traditionally extensive economic production basis or the creation of modern competitive production activities. These disadvantages are also inextricably related to the lack of adequate infrastructure and services. The most obvious outcome of these developmental shortages is the rapid rural depopulation process in these areas resulting in their economic, social and environmental degradation. Nevertheless, some mountainous areas such as Mt. Pelion, Mt. Parnassus and Metsovo have managed to take advantage of their local natural and cultural resources and thus have set the foundations for the development of local tourism and other sectors

If, as Coleman and others suggest, social capital is most likely to develop in communities with a strong sense of internal identity and boundaries, then it is highly possible that socially isolated and rural communities will demonstrate higher levels of social capital (Onyx & Bullen, 2000). However, these communities are also likely to demonstrate more conservative attitudes and intolerance to difference, characteristics also believed to be associated with low levels of social capital (Cox, 1995; Putnam, 1995).

4.2 Data collection procedures

For the purpose of this study, a combination of quantitative and qualitative methods was used, on a complementary basis, to generate multiple-sourced

information. To measure the available stock of social capital and civil society, we apply a locally-based integrated questionnaire. The tool that best served this purpose, which was used as a pattern in this study, was the social capital questionnaire developed in Australia by Onyx & Bullen (e.g. Onyx and Bullen, 2000; Kritsotakis et al., 2008). More specifically, the first version of the social capital questionnaire contained 102 closed-type questions which are divided into nine different sections and provide information about the characteristics of the residents questioned in each of the study areas as well as robust evidence about the household members' participation in various types of social organizations and informal networks, as well as the kinds of contributions that the individual gives and receives from them. Furthermore, it provides information about the citizen's trust towards neighbours, it examines how these perceptions have changed over time and gives evidence for the citizens' collective action and cooperation as well as their access to information and communication infrastructure. It also provides information about the nature and the range of differences and mechanisms, which threaten social cohesion and exclude some population groups from key public services. At the same time, there is some evidence about the individuals' empowerment and political action and the dynamics of social innovation in the two case study areas.

In the following paragraphs, the selected variables and the associated factors included in the analysis are briefly described.

Variables considered in the analysis and used for the measurement of social capital are as follows: In order to measure the level of cohesion, two different variables were included. First *"do you think that there are many differences* (in wealth, income, social status etc.) *between people living in your village/neighbourhood?'*, *"do you think that differences between people living in your village/neighbourhood cause problems in fellow villagers' relations?"* and finally *"how often do you feel isolated by your fellow villagers?"*.

For the interpersonal/social trust in neighbours and key service provider's, three different variables and consequently three different questions were used: the level of trust in neighbours, the level of trust in fellow villagers and finally the level of trust in teachers. Concerning social trust in fellow villagers, three different variables were included. Firstly, the commonly used continuum statement of trust *"most people in this village/neighbourhood can be trusted or you can't trust anyone"* (Jones et al., 2008; Paxton, 1999; Newton, 2001), secondly referring to the level of fairness: *"in this village/neighbourhood, one has to be alert or someone is likely to take advantage"* and a thirdly referring to citizens' trust and solidarity: *"most people in this*

village/neighbourhood are willing to help you if you need it". For the institutional trust factor, one institution was included in the measurement representing local government institutions. The level of trust in local government and in local government officials was also ranked on a scale from one to five. Concerning citizens' reciprocity and solidarity, two variables were included: *"whether participants feel that there is a strong feeling of reciprocity and solidarity between the citizens in their local community"* and *"whether participants feel that citizens in their local community help each other out often when they need a hand"*. For the Empowerment factor, three different variables were included. Firstly the respondents were asked *"if they can influence decisions affecting the quality of life in their local area"*, secondly the participants were asked *"if they have the power to take decisions which can change/improve their life"* and finally, about their satisfaction with the life, they asked *"how satisfied they fell with their life as a whole these days"*. Finally, relative to social networks there were only a representation of the informal/family networks. More specifically three questions were used: the level of frequency of speaking relatives, the level of frequency of meeting relatives and finally a question about the level of importance of family relations in their lives. On a scale of 1-5 (very important –not at all important) respondents are asked to indicate the importance in their life of family.

As far as the variables used for the evaluation of the quality of local development these are as follows: in order to measure the *"The efficiency of public health and public transport services"* in the two mountain rural areas five different variables were used, including those relevant to eliciting people's opinion on the local health care system, with regard to three particular aspects: medical assistance, nursing assistance, and hygienic conditions. Also it was very useful to detect citizen's satisfaction with the efficiency of public transport services. For the "*Life expectancy and health of natural environment"* factor, three different variables were included: the *"Life expectancy of citizens in local community", "Air quality"* and *"Water quality"*.

For the evaluation of the quality of local development we used the methodology applied by Fabio Sabatini (2006) in his attempt to carry out an empirical assessment of the causal nexus connecting social capital's diverse aspects to the quality of economic development in Italy. Due to lack of complete and reliable secondary data for the areas under study, we were compelled to collect primary data.

The quality of local development is measured through a locally-based integrated questionnaire containing 13 closed-type questions which are divided into three different sections (human development, social quality,

and the state of health of rural ecosystems) and provide information about the local population's life expectancy, the rate of high school attendance, the level of personal income, the efficiency of public health services, gender equality, labour precariousness and the quality of public school infrastructure. It also provides information about the health of rural ecosystems, the efficiency of public transport services and the quality of the drinking water (Sabatini, 2006). Responses to the questionnaires were assessed via measurement on a five-point Likert scale. The research sample consisted of 318 individuals (194 of whom were residents in the Prefecture of Magnesia, and 124 were residents in the Prefecture of Ioannina).

However, we should keep in mind that the reliability of responses to questionnaires is always questionable, especially in relation to subjective questions about social norms. That is why detailed face-t-face interviews constitute a precious tool to corroborate the results of a survey. For this reason, the present survey was subsequently followed up by 46 in-depth, semi-structured interviews - in order to validate the quantitative data - with selective participants and key informants (31 in the area of Pilion and 15 in the Zagori area), such as officers of local authorities, organisations of local self-government, municipalities, local developmental agencies, local associations, voluntary organisations and so on. The interviews involved the administration of a pre-coded questionnaire with a limited number of open-ended questions. The qualitative data was used to validate, clarify and illustrate the quantitative data obtained in the survey.

4.3 Data Analysis

The questionnaires were analyzed, using descriptive statistics and factor analysis (Exploratory and Confirmatory Factor Analysis). Factor analysis is a technique which may be used for the measurement of social capital (Narayan & Cassidy, 2001; van Oorschot, Arts & Gelissen, 2006; Western et al., 2005). Exploratory factor analysis was used to identify the elements of social capital and local development and also to determine which questions were related to social capital and local development and which ones were not. The analysis permitted the identification of a set of specific factors that might identify the separate components of social capital and local development. By this means, a set of oblique factors may be identified and correlations between them computed. Also, Confirmatory Factor Analysis was used, which is applied when attempting to explicitly test an already stated hypothesis and provides the opportunity to test a hypothesis about a specific factor structure imposed a priori (Jones et al., 2008). The causal relationship between social capital's and local development's different

dimensions is then assessed through structural equation model. In the structural equation model, hypothesis on causal relationships between variables are guided by results from the empirical investigation on social capital and the quality of economic development carried out by means of multivariate analysis on Sabatini (2005c), where evidence is provided of a positive and significant correlation between social capital and various "quantitative" and "qualitative" aspects of economic development.

5. Empirical results

5.1 Descriptive statistics analysis results

5.1.1 Sociodemographic and economic characteristics of the sample in the two case study areas

The sample comprises 318 citizens aged 16 to 73 in the area of Pilion and 23 to 82 years old in the area of Zagori. In the mountainous area of Pelion, 60% of the total sample is female and their average age was 39, with a standard deviation of 12, while in the mountainous area of Zagori 62 % of the sample is male and the average age is 44, with a standard deviation of 16. With regard to family status, most of the individuals in the area of Pilion are married (70.6%). On the other hand, the majority of the citizens in the area of Zagori are unmarried (51.6%). Moreover, in the area of Pilion 11% of the total sample has university qualifications, whereas 29% has not even manage to finish high school, while in the area of Zagori 14% are university graduates and 27% has just received school education. The respective percentages for the Zagori area were 14% and 27%. Twenty four percent of the sample in the area of Pilion has an annual family income ranged from €17,610 to €29,347, while in the area of Zagori 21 % of the sample has an annual family income ranged from €8,806 to €11,739. This particularly low income is due to the fact that most of the respondents are economically dependent on tourism, which is characterised by seasonality. Furthermore, most of the respondents in the mountainous area of Pilion are permanent residents who have been living in the area an average of 31 to 40 years, while the majority of the residents in the area of Zagori have been living in the area an average of 21 to 30 years.

5.1.2 The main dimensions and the structure of social capital (formal & informal) in the two case study areas

As was expected, there are no great differences between the two case study areas concerning the structure of social capital and the dynamism of local development. The first results of the research show that the situation in both areas has many common characteristics. So we will present the findings, with reference to the main dimensions of social capital and local development, for the whole sample and not separately for each case study area.

With reference to the strength of informal social capital, the answers in the three relevant questions revealed the value of the informal networks of family and friends in Greece. More specifically, in the question: "How often do you… socialize with family members, with friends, and with neighbours?" the majority of the respondents (29.6%) answered that they socialize with their family members less than once a month, while the majority of them (71.4%) socialize with friends and neighbours several times a week. This finding is a first evidence of the weak character of civil society in our case study areas as according to Pichler & Wallace (2007, p.433) " in countries where family or informal social capital predominate to a much greater extent it may be more difficult to establish a vibrant civil society of the kind described by Putnam because the culture does not allow it".

Although the frequency of social events within informal family networks is low in our case study areas, the importance of family is very high. More specifically, the 43.4% percentage of the respondents view ***family*** as a ***very important*** institution in their life, while at the same time the 63.2 ***percent of the respondents*** said that they have the support of their family members when they face a serious economic problem.

In order to further sustain the analysis of social capital in our case study areas, it was essential to report the level of participation in civil society. Available data show an extremely limited participation. In particular, the percentage of individuals who are members of any kind of organization ranged from 20 to 33%. The majority of the respondents (33%) are members of a cultural association and this is very typical in rural areas where the citizens seek entertainment and a refuge in this kind of association. But what is very interesting about this kind of participation is that it has an extremely seasonal character and very often is stimulated by the non-permanent residents who live in another close or distant city. On the contrary, only 3 %

of the respondents are members of a consumer union and this is very justifiable as this kind of organization is located outside of the local area.

Concerning the results about the level of trust and trustworthiness which is developed among citizens, the collected data show that the citizens, in both case study areas, have a high tendency to trust individuals**,** as the majority of them (58.2%) state that "most people can be trusted", 27 % of them declare that "you can't trust anyone", while only 14.8% gives the answer "it depends". We can say that this level of social trust is very satisfactory compared with the results of the first round of European Social Survey for the whole of Greece. In that first survey, Greece turns out to be the country with the lowest level of social trust after Portugal (Jones et al., 2008). It is more difficult to interpret the relationship between the place/area people live in and their level of trust. The fact remains that in urban centres people tent to trust less than those living in the country. One obvious explanation is that community ties being highly affected by strong family networks in rural areas, compared to phenomena of alienation in the urban areas.

Finally, the results with respect to the role of local government in the inclusion of the local population in the decision-making process and in the enforcement of civil society prove to be very interesting. Responding to the question "To what extent do you agree or disagree with the following statement: I can influence decisions affecting my life?", some 10 % of respondents said "I strongly agree", 13.8 % said " I agree", 39.6% said "I neither ***agree*** nor ***disagree***", 23% said " I Disagree" and some 13.5% said " I strongly disagree". Furthermore, in the question "how often do local authorities take into account your concerns when they take decisions that affect your life?" some 22.6% of the respondents said "most of the time", 18.9% "some of the time" and some 58.5% of the respondents said "never". Finally to the question "In the last 10 years, do you think that the honesty of the local authorities has been improved, has remained at the same level or has been reduced?", the majority of the sample (42.1%) supports the idea that that the honesty of local authorities has remained at the same level, the 35.8% said that has been improved and the 22% said that it has been reduced. In this case, perhaps it is not only government ineffectiveness and corruption that is at play, but also patron-client relations that are characteristic of rural areas and might adversely affect development.

5.2 Multivariate analysis results

5.2.1 Results of Exploratory Factor Analysis (EFA) for the "social capital" main variables

Resulting data were repeatedly factor analyzed with the final factor solution using alpha factoring extraction and direct oblimin rotation with Kaiser Normalization. This generated a seven factor solution which included 19 of the original 49 variables which remained in the analysis after the completion of the 1st phase of Exploratory Factor analysis. The seven factors explained 67.1% of the total variance as indicated in Table 1. The factor model had a Kaiser Meyer Olkin measure of 0.798, and Bartlett's Test of Sphericity was not significant ($p < .000$). Communalities were good with all values at above 0.53, and 8 of the 19 over 0.70. Factor loadings are outlined in Table 1 where the emergence of a seven-factor solution with simple structure is clearly delineated. The seven factors resulting from this model are described in Table 2, which also includes the full wording of each of the 19 variables.

The recognition and the determination of the main factors' identity were supported in the variables with the higher values of factor loadings. High prices of loadings for one or more variables of factor identified this factor. On the whole, we can say that all the resulting factors have the following characteristics: a) they are meaningful in terms of the conceptual framework, b) are relatively stable across the two different samples, c) all items included in the factors correlate with the total scale score, d) all factors have eigenvalues greater than 1 and e) all the factors together account for a substantial amount of the variance.

Table 1. Factor loadings and Total variance explained

Variables	Factors						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
PLvilDIF	-.001	-.249	-.128	-.008	**-.804**	.243	-.078
DifCPROB	-.195	.044	.097	-.071	**.756**	-.051	.244
fqISOL	.477	-.241	-.270	.310	**-.621**	.219	-.194
trstTeac	-.022	.114	.064	.118	-.109	**.745**	-.217
trstFVil	.334	-.355	-.199	.191	-.298	**.750**	-.263
trstNghs	.249	-.294	-.101	.154	-.103	**.814**	-.233
BCPPLvil	.075	**-.755**	-.080	.099	-.196	.159	-.124
HLPPLvil	.318	**-.738**	.004	.125	-.119	.169	-.336
TRPvil	.127	**-.805**	-.169	.075	-.098	.092	-.234
trstLoc	.158	-.225	.008	.084	-.359	.431	**-.765**
TRSTLG	.188	-.281	-.138	.187	-.142	.222	**-.883**
FQspRelP	.164	.000	-.078	**.812**	.043	.062	-.059
FQMtRel	-.315	-.257	-.251	**.722**	.008	.023	-.231
ImpnRVES	.178	-.110	.058	**.676**	-.309	.384	-.109
SolSupF	**.670**	-.430	-.062	.172	-.308	.346	-.492
FrqVILsup	**.720**	-.404	-.127	.260	-.159	.297	-.331
INFLlife	.195	-.275	**-.578**	.261	-.396	.336	-.045
PCLif	-.061	-.096	**-.837**	.059	-.033	-.011	-.129
SatLife	.511	.023	**-.644**	.049	-.252	.109	.089
Total variance explained							
Initial Eigenvalues	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Total	4.805	1.619	1.580	1.541	1.179	1.017	1.008
% of Variance	25.290	8.522	8.316	8.108	6.203	5.353	5.305
Cumulative	25.290	33.812	42.128	50.236	56.439	61.791	67.097
Extraction Sums of Squared Loadings							
Initial Eigenvalues	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Total	4.805	1.619	1.580	1.541	1.179	1.017	1.008
% of Variance	25.290	8.522	8.316	8.108	6.203	5.353	5.305
Cumulative	25.290	33.812	42.128	50.236	56.439	61.791	67.097
Rotation							
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Total	2.050	2.752	1.750	2.056	2.365	2.672	2.267

Table 2. Description of factors

Factor	Description	Variables included in the analysis	*Factor loadings*
1	Feeling of isolation and existence of important differences between the citizens	'I think that there are many differences (in wealth, income, social status e.t.c.) between people living in my village/neighbourhood' *(PLvilDIF)*	-.804
		'I think that differences between people living in my village/neighbourhood cause problems in the fellow villagers' relations' *(DifCPROB)*	.756
		' I often feel isolated by my fellow villagers' *(fqISOL)*	-.621
2	Social trust *(trust neighbours and key service providers)*	' I trust my neighbours' *(trstNghs)*	.814
		' I trust my fellow villagers' *(trstFVil)*	.750
		' I trust teachers' *(trstTeac)*	.745
3	Social trust *(trust fellow villagers)*	' I think that in this village/neighbourhood, one has to be alert or someone is likely to take advantage of you' *(BCPPLvil)*	-.755
		'I think most people in this village/neighbourhood are willing to help if you need it' *(HLPPLvil)*	-.738
		'I think most people who live in this village/neighbourhood can be trusted' *(TRPvil)*	-.805
4.	Institutional trust *(trust local government and local government officials)*	'I trust local government officials' *trstLocOffic*	-.765
		'I trust local government' *(TRSTLG)*	-.883
5.	Reciprocity and solidarity *(fellow villagers)*	'I feel that there is a strong feeling of reciprocity and solidarity between the citizens in my local community' *(SolSupF)*	.670
		'I feel that citizens in my local community help each other out often when they need a hand' *(FrqVILsup)*	.720
6.	Empowerment *(control over institutions and processes directly affecting their well-being)*	'I can influence decisions affecting the quality of life in my local area' *(INFLlife)*	-.578
		'I have the power to take decisions which can change/improve my life *'(PCLif)*	-.837
		'I am satisfied with my life as a whole these days' *(SatLife)*	-.644
7	Informal (family) social networks	' I often speak to relatives on the phone' *(FQspRelP)*	.812
		' I often meet relatives who are not living with me' *FQMtRel*	.722
		' *I believe that the relationship with my relatives is very important for my life'* (ImpnRVES)	.676

The final factor solution therefore corresponds well with the previously identified conceptual framework and includes elements of several of the "building blocks" of social capital. However, the failure of the model to include variables related to the citizen's cooperative and participatory behaviour raises a question mark over the dynamism of civil society and the formal social capital in our sample.

A variety of sources were used to generate questions utilized in this survey (e.g. World Bank, 2003; Grootaert & Van Bastelaer, 2002a,b; Ibanez et al., 2002; Grootaert, 2001; Narayan & Cassidy, 2001; Narayan & Pritchett, 1999; Onyx & Bullen, 2000; Green & Fletcher, 2003).

5.2.2. Results of Exploratory Factor Analysis for the "quality of local development" main variables

Resulting data were repeatedly factor analyzed with the final factor solution using alpha factoring extraction and direct oblimin rotation with Kaiser Normalization. This generated a two factor solution which included 9 of the original 13 variables which were retained in the analysis after the completion of the 1st phase of Exploratory Factor analysis. The two factors explained 51.8% of the total variance as indicated in table 3. The factor model had a Kaiser Meyer Olkin measure of 0.723, and Bartlett's Test of Sphericity was not significant ($p < .000$). Communalities were good with all values at above 0.55. Factor loadings are outlined in Table 3 where the emergence of a two-factor solution with simple structure is clearly delineated. The two factors resulting from this model are described in Table 4, which also includes the full wording of each of the 8 variables.

Table 3. Factor loadings & Total variance explained

Variables	Factors	
	Factor 1	Factor 2
LIFE	.197	.783
SATMED	.663	-.250
SATNURS	.810	.123
SATHYG	.555	.060
PRECAR	-.289	.003
AirMonit	-.232	.659
PubTran	.772	-.213
WatQual	-.227	.719
Total variance explained		
Initial Eigenvalues	Factor 1	Factor 2
Total	3.069	1.073
% of Variance	38.361	13.410
Cumulative %	38.361	51.771
Extraction Sums of Squared Loadings		
	Factor 1	Factor 2
Total	3.069	1.073
% of Variance	38.361	13.410
Cumulative %	38.361	51.771
Rotation		
	Factor 1	Factor 2
Total	2.612	2.126

As we have said before, the recognition and the determination of the two factors' identity were supported in the variables with the higher values of factor loadings.

The final factor solution therefore corresponds well with the previously identified conceptual framework and includes elements of several of the "quality of economic development" main variables. However, the failure of the model to include variables related to the quality of public school infrastructure, the level of personal income and participation in labour market reveals that these dimensions' weak character block their positive influence in the quality of local development.

Table 4. Description of factors

Factor	Description	*Variables included*	*Factor loadings*
1	The efficiency of public health and public transport services	"I am satisfied with the nursing assistance in my local community" *(SATNURS)*	.810
		"I am satisfied with the medical assistance in my local community" *(SATMED)*	.810
		"I am satisfied with the hygienic conditions in my local community" *(SATHYG)*	.555
		"I am satisfied with the efficiency of public transport" *(PubTran)*	.772
		Labour precariousness *(PRECAR)*	-.289
2	Life expectancy and health of natural environment	Life expectancy of citizens in local community *(LIFE)*	.783
		Air quality *(AirMonit)*	.659
		Water quality (WatQuality)	.719

5.3 Results of Confirmatory Factor Analysis (CFA)

The main aim of the Confirmatory Factor Analysis (CFA) was to evaluate the factor structure of the social capital and local development in the two mountain case study areas. CFA is considered to be a general modelling approach that is designed to test hypotheses about a factor structure, when the factor number and interpretation, in terms of indicators, are given in advance (Jones et al., 2008)

In order to apply the CFA model, 27 ordinal observed variables and 9 latent variables were selected (see Table 2 & Table 4), which were regarded as explanatory for the formation and current situation of social capital and the quality of local development in both case study mountain rural areas.

5.4.1 Path diagram and Model Fit

Before proceeding to the Confirmatory Factor Analysis (CFA), a preliminary analysis for the suitability of the data was conducted through SPSS (Norusis, 2006), using the Kaiser-Meyer-Olkin (KMO) measure of model adequacy (Kaiser, 1970). At this point it is very important to say that the KMO

indicator was conducted only for the 27 observed variables which were included in the analysis. The observed value (0.76) indicated that the data were suitable for conducting CFA. Statistical software LISREL 8.80. (Jöreskog and Sőrbom, 1999; Jöreskog, 2000) was utilized for the estimation of the CFA model. More specifically, the model consists of 27 manifest variables which are in turn associated with 9 latent variables. Weighted Least Squares (WLS) methodology was implemented for the estimation of the model's parameters as it does not rely on the assumption of the multivariate normality for the 27 observed variables. Models are tested using Structural Equation Models (SEM) goodness of fit tests to determine if the pattern variables and covariances in the data are consistent with structural (path) models theoretically specified. In this paper, only the model with the best goodness of fit is presented. Confirmatory Factor Analysis indicated that the first-order factor model tested provided a good fit of the 27 observed and the 9 latent variables (goodness of fit measures are briefly described in table 5). T

Table 5. Goodness of fit Indices for the CFA Model

Goodness of fit Indices	Index value for the final first order factor model	Accepted boundaries for close fit
$\chi 2$	265,25	
df	250	
p-value	0,24	>0,05
$\chi 2$ / df	1,06	<3
RMSEA (Squared Error of Approximation)	0,014	0,00-0,06
GFI (Goodness of Fit Index)	0,94	>0,90
AGFI (Adjusted Goodness of Fit Index)	0,91	>0,90
NNFI (Non-Normed Fit Index)	0,99	>0,90
NFI (Normed Fit Index)	0,93	>0,90
CFI (Comparative Fit Index)	0,99	>0,90
PNFI (Parsimony Normed Fit Index)	0,66	> 0,50

Source: Jones *et al*, (2007), Jöreskog (1969), Brown (2006), Arbuckle (2005), Hair *et al* (1995), Bollen (1989), Byrne (1998), Mulaik *et al*. (1989).

The first and the final estimated CFA models are displayed via the path diagrams presented in Figures 1 and 2 (Appendix) which report the variables, their errors and the linkages connecting variables. Such

connections are represented graphically, by arrows; and numerically, by regression coefficient. More specifically, in the path diagrams, squares represent the observed variables, whereas circles represent the latent variables (factors). The single-headed arrows are used to connect first order factors to the associated observed variables. The association (covariation or correlation) between the latent variables is represented by a double-headed arrow connecting them. Latent variables "cause" the observed variables, as shown by the single-headed arrows pointing away from the circles and towards the manifest variables. The numbers on arrows from the latent variable to observed variables are (standardized) factor loadings (regression weights). The absence of arrows means the absence of linkages between variables. From the path diagrams 1 & 2, one can observe that most factor loadings are significant at the 5 percent significance level. The validity of the final model (Appendix: Figure 2, Path diagram 2) was tested by using various fit statistics available by LISREL, which verified that the model present a good fit to the data (see table 5).

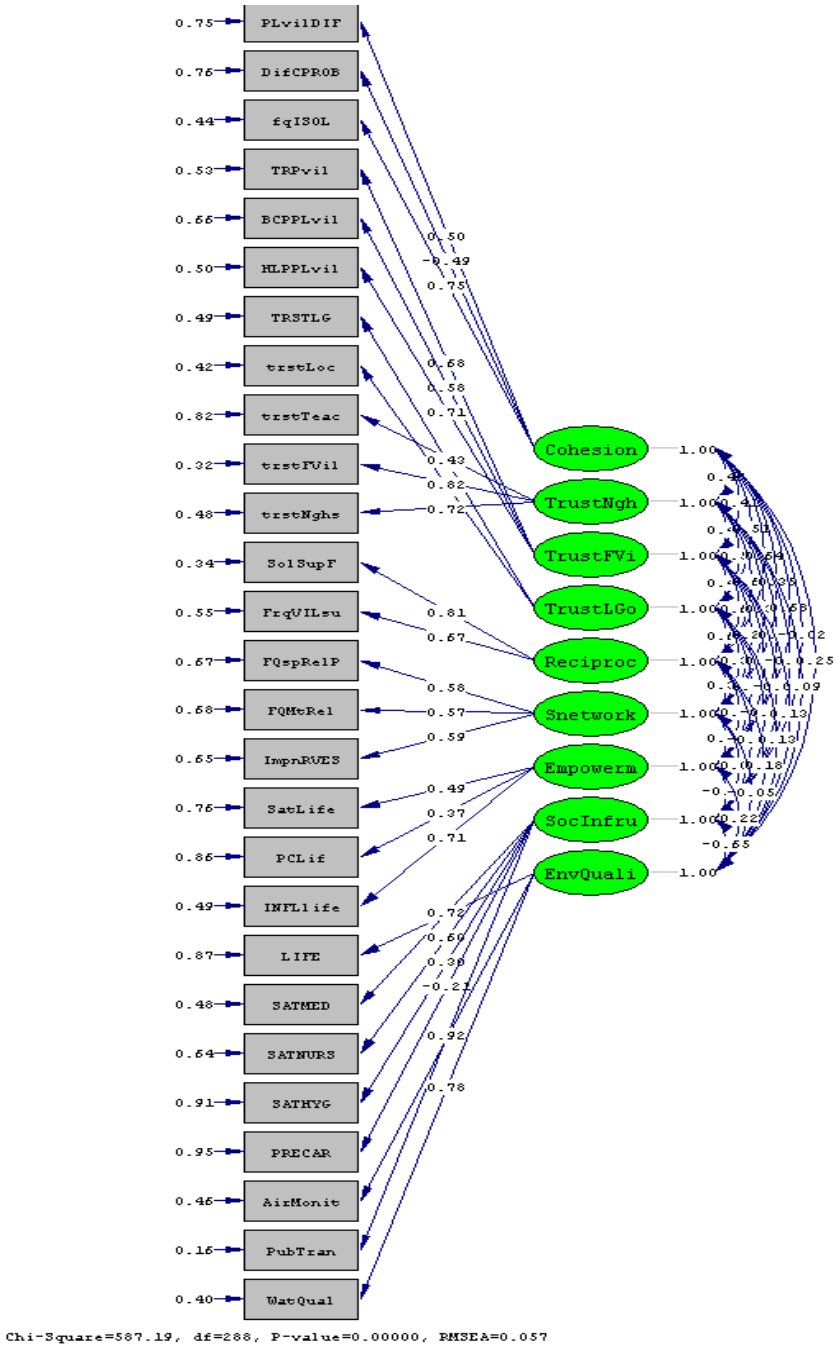

Figure 1. First estimated CFA model (1st path diagram)

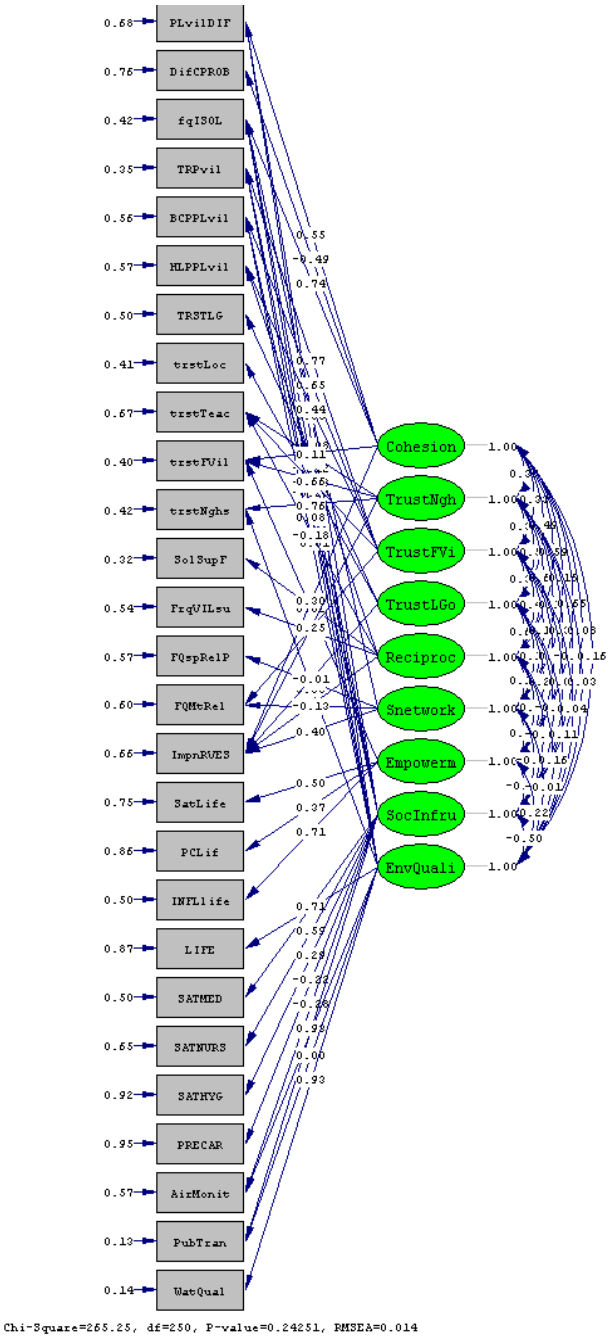

Figure 2. Final estimated CFA model (2nd path diagram)

More specifically, considering first the indicators of the latent variable "*efficiency of public health and public transport services" (SocInfru),* it is noted that the variable *"labour precariousness"(PRECAR)* presents very low cross-correlation with this factor and does not fit in well with the model (R^2=0.044). The same problem also appears with the variable "*satisfaction with the hygienic conditions"* (R^2 =0.16), something that implies that both these variables do not have an important contribution to make in the model and that it could be better to reconsider their use as indicators of the "*efficiency of public health and public transport services"* factor.

On the other hand, the variables that according to the modification indices were suggested - from the final model of confirmatory factor analysis - to be connected with the factor "*efficiency of public health and public transport services,* as measured by the index of social quality, were the following: the variables *' I often feel isolated by my fellow villagers' (fqISOL), " I think that there are many differences (in wealth, income, social status e.t.c.) between people living in my village/neighbourhood' (PLvilDIF)* which shape the 'Cohesion' latent variable and also the variables *' I think most people who live in this village/neighbourhood can be trusted' (TRPvil), 'I think that in this village/neighbourhood, one has to be alert or someone is likely to take advantage of you' (BCPPLvil), Air quality (AirMonit)* and the variable "*I am satisfied with the efficiency of public transports" (PubTran).* Moreover, with regard to the factor "*Life expectancy and health of natural environment"* it was evident that this factor is strongly connected with the variables "*I often feel isolated by my fellow villagers' (fqISOL), 'I think most people who live in this village/neighbourhood can be trusted' (TRPvil) , 'I think that in this village/neighbourhood, one has to be alert or someone is likely to take advantage of you' (BCPPLvil), ' I trust my neighbors' (trstNghs)* and the variable *'I am satisfied with the efficiency of public transport' (PubTran).* The above statistically significant paths can be explained theoretically as well. For example, social quality has been presented as a theory that can explain economic and social progress of the daily lives of a population. The components of social quality include: socio-economic security, social inclusion, social cohesion and social empowerment (Monnickendam & Berman, 2008).

5.4. Results of Structural Equation Model (SEM)

The main aim of the Structural Equation Model (SEM) was to investigate the causal relationship between the character of social capital and the quality of local development latent variables in the two mountain case study areas. According to Goldberger (1972) "*A SEM is a stochastic model where each equation represents a causal linkage, rather than a simple empirical association'* (Sabatini, 2006). In order to compute the SEM model 9 latent variables (7

social capital and 2 local development) were used (see Table 6). In this subsection, only the model with the best goodness of fit is presented (see Table 7). Table 8 presents the parameters estimates of the structural model. Social capital variables' influence on local development quality has been investigating through some background variables.

Table 6. SEM Variables Description

Variables	*Name*	Note:
Social capital latent variables		
Cohesion	*Cohesion*	Latent independent, or exogenous, variable
Interpersonal/social trust in neighbours and key service provider's	*TrustNgh*	
Fairness	*TrustFVi*	
Institutional trust	*TrustLGo*	
Citizens' reciprocity and solidarity	*Reciprocity*	
Empowerment	*Empower*	
Social networks	*Snetwork*	
Local development latent variables		
Efficiency of public health and public transport services	*SocQuality*	Latent dependent, or endogenous, variables
Life expectancy and health of natural environment	EnvQuality	

Table 7. Exact fit and close fit statistics for the SEM Model

Goodness of fit Indices	Index value for SEM Model
χ^2	609.598
df	288
RMSEA (Root Mean Square Error of Approximation)	0.057
GFI (Goodness of Fit Index)	0.87
AGFI (Adjusted Goodness of Fit Index)	0.84
NNFI (Non-Normed Fit Index)	0.90
NFI (Normed Fit Index)	0.85
CFI (Comparative Fit Index)	0.92
PNFI (Parsimony Normed Fit Index)	0.70

Table 8. Estimation results of Structural Equation Model

	Cohesion	*TrustNgh*	*TrustFVi*	*TrustLGo*	*Reciprocity*	*Snetwork*	**Empower**
SocQuality=	**+0.201**	**+0.082**	**+0.014**	**+0.022**	**-0.294**	**+0.052**	**-0.148**
Std.Err.	*0.188*	*0.131*	*0.122*	*0.125*	*0.206*	*0.092*	0.161
t-value	*1.073*	*0.624*	*0.116*	*0.172*	*-1.427*	*0.570*	-0.921
EnvQuality=	**+0.159**	**-0.073**	**0.012**	**0.044**	**0.078**	**-0.169**	**+0.150**
Std.Err.	*0.196*	*0.137*	*0.128*	*0.133*	*0.211*	*0.101*	0.170
t-value	0.813	-0.534	0.092	0.328	0.369	-1.671	0.886

With reference to casual nexus between the seven different dimensions of individual social capital and the two basic dimensions of the quality of local development, based on the results of the Structural Equation Model (Table 8), it is evident that the there is a strong relationship between almost all the seven basic dimensions of social capital and the factors "*efficiency of public health and public transport services*" and "*Life expectancy and health of natural environment*". More specifically, there is a negative relationship between 'family/informal social networks' and the dimension '*Life expectancy and health of natural environment*' and a positive one between 'family/informal social networks' and the variable 'efficiency of public health and public transport services'. As for the factor of: '*efficiency of public health and public transport services',* which mirrors the level of social quality in our case study areas, this is positive influenced by social capital factors: '*Feeling of isolation and existence of important differences between the citizens', 'Social trust (trust neighbours and key service providers), 'Social trust (trust fellow villagers)', 'Institutional trust (trust of local government and local government officials',* 'Informal (family) social network, while at the same time it is negatively influenced by the factors: *'Reciprocity and solidarity (fellow villagers)* s'' and also by the dimension '*Empowerment*'. On the other side, the factors', '*Social trust (trust neighbours and key service providers) and* 'Informal (family) social network', influence negatively the local development dimension *'Life expectancy and health of natural environment',* while at the same time the factors '*Feeling of isolation and existence of important differences between the citizens',* 'social trust *(trust fellow villagers)','Institutional trust (trust local government and local government officials' and 'Reciprocity and solidarity (fellow villagers)'* influence this factor positively.

Summarizing, the structural equation model proposed in this paper suggests that strong family ties, that are generally referred to as a form of bonding social capital connecting family members, exert a strong positive influence on social well-being and a negative one on human development, while social and interpersonal trust have a negative effect on environmental quality and a positive one on social quality.

6. Concluding remarks and recommendations

The ideas of social capital and civil society are important themes in a wider discourse having to do with citizen participation and empowerment in local development. Based on a sample of 318 residents in two Greek mountain areas, this study tried to measure the existing stock of social capital and the dynamism of local development.

The results indicated that the majority of the respondents were aware of the importance of informal networks and they participated less in the formal organizations which define the character of local civil society. The findings also suggested that there is a strong relationship between the respondents' perception of the importance of family relationships and informal networks and their participation in civil society. We show that bonding social capital has a negative effect on the degree of sociability outside the closed social circle. This result supports Fukuyama's claim that 'the strength of the family bond implies a certain weakness in ties between individuals not related to one another' (Fukuyama, 1995, p. 56).

However, a more detailed study of the residents' background in terms of their own participatory behaviour and their involvement in the events of the area may prove to be a significant factor in explaining their attitude to the empowerment of local civil society. The involvement and co-operation of local citizens in local government affairs and activities constitutes a basic parameter for the building of a dynamic civil society. But the most important factor is the existence of an open minded and autonomous local government which will ensure all the necessary conditions for the enlargement of citizen participation and the achievement of a social harmony.

So, it is very important to understand that the local government can play a defining role in the establishment and maintenance of a healthy ***civil society and also that*** the establishment and maintenance of a healthy civil society is extremely important for the successful development and operation of democratic political systems. Although the term "civil society" generally is used to refer to social relations and organizations outside the state or governmental control and while civil society exists independently of the state, it is dependent on the state's acceptance to be able to grow and flourish. Local government can ensure the necessary conditions in order for people to have the freedom to cooperate, to speak freely, to publish, and to participate in social and political processes without fearing repercussions. Without such freedom, civil society will struggle to be robust.

What is a big terminus of each decentralization process is the achievement of a more effective basic service delivery to people at the grassroots. Each decentralization reform should be socially innovative in order to be successful and useful for the whole population, and not only for specific social groups. Any attempt towards the enforcement of civil society in the Greek rural mountain areas should be part of a composite plan for building development infrastructure, improving public services, creating jobs, involving citizens in planning and decision-making, streamlining local government, channelling resources to women and to the poorest people, and deepening democracy from the representative towards the participatory form.

The reasons that had led the Greek people to base more on the strong family ties and networks and less on institutional organizations and structures constitute explanatory variables which can illuminate the weak character of Greek civil society as well as the low stock of social capital and trust. Only after attaining a deep understanding of the ultimate causes, which create the profile of a powerless Greek civil society, is it possible to foster a transformation of its qualitative characteristics. What is very important at this point is to make clear that strong social ties and shared norms among families and other homogeneous groups are not necessarily 'bad' in the sense that social ties based on family, ethnicity, religion and so on, do not necessarily lead to exclusion and mistrust of 'outsiders'.

According to what has been discussed above, the solution of the greatest problems affecting the dynamism of the civil society in both municipalities depends on the control of central government, local self-government and the local community. Their role in the formation of the basic characteristics of civil society is complementary. Local self-government is called to undertake action and design policies that will create the proper conditions that will encourage local society to adopt behaviors that will promote and contribute to the enforcement of local civil society. On the other hand, the citizens have to realize that only an activated and sensitized local society can influence and motivate the organisms of Local Self-government, directing them towards actions and interventions that will promote the dynamics of civil society.

A strong civil society is needed for the enforcement of the local development as civil society can mobilize the endogenous available resources: political, economic, cultural, and moral. A dynamic and diverse civil society stimulates social and political participation, increasing the involvement and commitment of citizens and promoting an appreciation of the obligations as

well as the rights of citizenship. By providing many potential avenues for political, economic and social expression, civil society with a rich associational life gives people the means and the initiatives to work for a stronger endogenous local development. If the positive relationship between formal social capital and the level of socio-economic development holds true, then the low stock of formal social capital in our case study areas may explain conditions of slow reformation and economic regression.

Our results overall indicate a significant influence of the strength of family ties and informal social capital on the dynamism of civil society and on citizen participation at a local level in Greek rural areas. We show that strong family ties imply more reliance on the family as a social and an economic unit, which secures access to goods and services and provides social support; and less on the local government for social insurance. We also found that strong family ties correlated positively with happiness and life satisfaction and negatively with mutual trust and reciprocation.

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