

Does Community Social Capital Determine Household's Coping Strategies with Hazards of Financial Crisis? Evidence from Transition Economies

Abstract. This study deals with how the fabrics of community-level social capital do affect household's ex-post strategies to deal with the 2007-08 financial crisis in the transition economies. The data is from nationally-representative surveys which cover 28 transitional countries of Eastern Europe and former Soviet Union. We found that choice of survival strategies during the crisis has strongly depended on community-level social capital. Higher level of social capital in community is associated with increase in utilization of active coping strategies. We also found that most of the households have to use depleting coping strategies. Fewer households applied to safety net strategies.

Key words. Social capital, Crisis coping strategies, Multilevel regression, Transition economies.

1. Introduction

After more than fifteen years since commencement of political, social, and economic transition in former socialist countries, the global economic crisis of 2007-08 broadsided Eastern Europe and countries of the former Soviet Union. Transition economies appear to be among those that were the hardest hit by the global financial crisis (Berglof and et al., 2009). According to the European Bank for Reconstruction and Development (EBRD, 2010), the GDPs of transitional economies contracted by 5.2 percent and registered unemployment increased in 2009. Furceri and Zdzienicka (2011) even found that the recent financial crises had lowered the long-term output of majority of transition economies by about 12–17 percent.

A number of responses to cope with the crisis's impact can be employed by households to maintain their well-being. Within the field of studies of household coping strategies there is a well-established tradition to categorize the existing responses into three broader groups, (1) active strategies, for instance, getting an additional job, (2) safety net strategy, for instance, getting help from welfare state, and (3) passive (depleting) strategies such as reducing consumption (Clarke, 2002; Gerasimova 2005; Lokshin and Yemtsov 2004; Gerry and Li 2010; Notten and de Crombrughe 2012). Studies on determinants of coping strategies were conducted in Russia (Kabalina and Clarke 1999; Skoufias 2003), other transitional countries (Bidani, Diagne, and Zaidi 2012), and Latin America (Fiszbein, Giovagnoli, and Aduriz 2003). The main objective of these studies were to find how economic shocks were transferred into household coping strategies and how these strategies varied across households with different socio-demographic characteristics.

However important, previous studies have a key limitation inasmuch as they did not assess the influence of community social capital on coping strategies. It is unclear, therefore, to what extent households were able to utilize the existing community social capital in order to maintain their well-being during the crisis. The extraordinary circumstances of the recent crisis present an opportunity to explore the role of social capital in alleviating the negative impact of economic shocks in the transitional countries. In this paper, we applied social capital theory to the case of households in transitional countries of the Eastern Europe and former Soviet Union affected by the recent economic crisis. The objective of this paper is to identify the impact of community social capital on household coping strategies.

We extend the previous literature in a number of ways. Theoretically, this study is broader in scope. It tests the impact of three dimensions of community social capital, namely, trust, networks, and norms to three coping strategies, namely, active, safety net, and passive. By contrast, previous

studies tested effect of one social capital to one coping dimension at a time. Methodologically, this study is more robust. Our sample covers 28 transitional countries, while most of the previous studies on the households coping strategies, with a notable exception of Bidani, Diagne, and Zaidi (2012), focused on a single country only. In addition, this study uses multilevel regression model, which allow to explicitly controlling for the effect of unobserved characteristics at community and country level, whereas previous studies focused on single level models only. Finally, this study focuses on the events followed from the recent global crisis of 2007, while most of the previous studies concentrated on the events of Russian and Latin America crises during the late 1990s and early 2000s. Timing is important because coping strategies selected by household differ from one crisis to another (Gerry and Li 2010).

Identifying and measuring the effect of social capital on coping strategies has theoretical and practical implications. From the theoretical perspective, such analysis helps us to better understand the connection between community social capital and coping with the impact of the crisis. Such analysis also reveals the relevance of community social capital to poverty reduction processes. From the practical perspective, identifying the effect of community social capital on coping strategies has implications for the design of poverty reduction policies and programs on country and community levels.

2. Theoretical framework and hypotheses

2.1 Social capital

The theoretical framework of this study draws on contribution of three equally important sources: Pierre Bourdieu, James Coleman, and Robert Putnam. The origin of term “social capital” could be traced back to Bourdieu who classified economic, human, cultural, and social capitals as crucial elements in a “general science of economy of practices” (Bourdieu 1986, 242). According to Bourdieu (1986, 248), social capital is “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition”. For Bourdieu, social capital is an attribute of an individual. An individual deliberately devise and implement strategies to invest in social capital in exchange of getting access to benefits. At the same time, social capital can be developed, accumulated, maintained, and exchanged to other forms of capital, for instance, economic or human. The “exchange rate” for such conversion is measurable. In addition, different types of social capital

may potentially have different “exchange rate” for such a conversion depending on a given context. Consequently, a specific type of social capital may have benefits in some context and have no benefits in another context (Bourdieu 1984).

Coleman (1988) extended the works of Bourdieu in two important ways. First, he identified three specific dimensions of social capital as resources which could be accessed: (1) social trust, (2) social networks, and (3) social norms. Improvement in any of these social capital dimensions is associated with increased coordination and cooperation among individuals or social groups which leads to the overall increase in a society’s efficiency (Coleman 1988). Second, he concurred with Bourdieu that social capital is an important resource, although he pointed out to the clear distinction between social capital and other types of capital, in particular, human and economic capital. While human and economic capitals can be generated, accumulated, and utilized individually, social capital needs to be owned and utilized jointly. In Coleman words (1990, p. 302), “social capital inheres in the structure of relations between people and among people’ unlike human capital which ‘is lodged in individuals”. Coleman also pointed out to the possible positive effect for others from individual’s social capital (Rodríguez-Pose and von Berlepsch 2013). By contrast with Bourdieu, who stressed the effect of individual’s social capital on their own benefits, Coleman highlighted the benefits of individual’s investment in social capital for all people living in the same organizational structure, for instance, groups, communities, or countries.

Building upon the Coleman’s works, Putnam (1993) influentially reconceptualised social capital as a community-level resource. Explaining why communities in the north of Italy usually outperformed communities in the south, Putnam identified the main cause in higher level of social capital in northern communities, which were characterized by stronger feeling of mutual interpersonal trust, vibrant horizontal networks, and observing the common norms. The identified community-level social capital in forms of trust, networks, and norms was able to generate positive externalities which benefited the entire society. Accordingly, Putnam (1993, 167) described social capital as “features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions”. Thus, social capital for Putnam is a community attribute, a resource which is generated and maintained at community level, and an asset which can benefit all community members regardless of their own level of social capital (Serra 2011).

In this study, we incorporate the above-discussed work of Bourdieu, Coleman, and Putnam. As in Bourdieu (1984 and 1986), we assume that social capital is truly “capital” and has a quantifiable

return to households. As in Putnam (1993), we assume that social capital is a community level resource which can benefit all members of the community. As in Coleman (1988), we define social capital as a resource which could be utilized by individuals and which has three dimensions, namely, (1) social trust, (2) social networks, and (3) social norms.

Let us now discuss these dimensions in details.

2.2 Generalized trust, networks, and norms

As discussed above, trust is an integral part of social capital. Trust can be found in cases where one agent demonstrates confidence in another agent in spite of the existing uncertainties, risks and the chances that another agent may potentially act opportunistically (Misztal 1996). Trust is especially important factor in situations which are characterized by limited information and imperfect legal mechanism (Davis 1973). Under the circumstances, the level of generalized trust (i.e. trust not tied to specific known individuals, such as friends or family members) is directly conditioned on the propensity that other agents will behave in the expected way. The positive influence of social trust in transitional countries is exemplified by the Novgorod province of Russia (Petro 2001). Moving from high level of distrust to high level of trust in the province was associated with rapid economic recovery through enhanced democracy and accelerated economic development.

Networks are also important part of social capital. Participation in community networks such as religious, sport, art, professional organizations and labour unions is especially important since it provides a solid base for trusting and reciprocal relationships between network members (Saegert, Thompson and Warren 2001). Participation in networks represents the foundation for developing information channels which “constitute a form of social capital that provides information that facilitates action” (Coleman 1988, S104). Focusing on Italy, Putnam (1993) showed that community networks create positive benefits in form of government efficiency and economic growth. Similarly, focusing on Russia, Manning and Tikhonova (2004) demonstrated the importance of informal community networks to pursuing active poverty reduction strategies and alleviating social exclusion in transitional countries.

Norms are the third key element of social capital. Norms can be defined as habit which helps to intuitively distinguish between acceptable and unacceptable behaviour (Lyon 2000). Although norms cannot be created at will by individuals, they can be learned through socialization process in families, communities, and institutions, for instance, schools. Bowles and Gintis (2002, F425) argued that the community is capable of enforcing norms ‘because a considerable fraction of

members are willing to engage in costly punishment of shirkers even when there is no reasonable expectation of being personally paid for their efforts”. In own turn, norms “facilitate exchanges, lower transaction costs, reduce the cost of information, permit trade in the absence of contracts, encourage responsible citizenship and the collective management of resources” (Woolcock and Narayan 2000, 16). The norms, therefore, act as effective constrains on narrow self-interest behaviours. Instead, they encourage individuals to contribute to the public goods and interests.

2.3 Coping strategies

As was briefly outlined in the introduction, the traditional typologies of coping strategies include three broader groups of the responses (Clarke 2002; Gerasimova 2005; Fiszbein, Giovagnoli, and Aduriz 2003; Gerry and Li 2010; Bidani, Diagne, and Zaidi 2012). One group is the active strategies. This group involves active utilization of the available physical, financial, or human assets. It includes responses such as getting an additional job, working more hours on the existing job, opening a new business, enrolling in further education due to the current lack of job opportunities, selling assets, or moving to a new location. Such active responses help household to maintain or even increase income in an attempt to maintain their well-being level against economic shocks.

Another group is safety net strategies. This group involves relying on government assistance or borrowing money. It includes responses such as seeking assistance from the government administrated social programs, for instance, social assistance, housing, children and unemployment benefits, as well as borrowing from individuals, formal and informal institutions. Such responses can be understood as forms of “risk sharing” approach utilized by the members of society (Notten and de Crombrughe 2012).

The last group is passive (depleting) strategies. This group encompasses various responses aimed at reduction in expenditure. It includes cutting expenditures on staple goods, leisure, healthcare, education, and utilities as well as defaulting loans. It also includes delaying expenditures for utilities, telephone, internet, and loan repayments. Such passive strategies are qualified as ineffective or depleting since they are associated with reproduction of chronic poverty (Clever 2005).

2.4 Hypothesized relationship between community social capital dimensions and coping strategies

As far as we know, no previous study assessed effect of community trust, networks, and norms on all three coping strategies. Therefore, we have to focus on the existing limited literature that studied the effect of separate social capital dimensions on various measures of coping strategies – one social capital and one coping dimension at a time. Thus, higher social capital in form of social networks at community levels is associated with better employment opportunities and lower level of unemployment (Freitag and Kirchner 2011). Community norms are also associated higher propensity to seek employment (Clark, 2003). Likewise, Kwon, Heflin, and Ruef (2013) demonstrated that community trust is associated with successful entrepreneurship, while Van Den Broeck and Dercon (2011) showed that networks are linked with increase in household productivity.

Narayan and Pritchett (1999) highlighted several ways by which community-level social capital successfully operates. The authors point out that communities with higher level of social capital have higher quality government administration, better developed democratic administration, and better management for community property. In addition, communities with higher level of social capital enjoy higher reliability of market transactions and possess better managed business which eager to use innovations. Following Narayan and Pritchett (1999), Maluccio, Haddada, and Mayb (2007, 56) more formally summarized mechanisms of positive social capital influence as: “(1) reductions in the costs of transactions by improving information flows about new opportunities and potential shocks, improving the diffusion of innovations, and improving knowledge about the comparative performance of local government agents; (2) promotion of consultative decision-making as well as collective action that minimises negative externalities and promotes the production of public goods; and (3) fostering of time-sensitive exchanges for mutual benefit by developing norms of civic behaviour, trust, and reputation dissemination”.

Taken together, the discussion above allows us to articulate two hypotheses:

Hypothesis 1: Higher level of community trust, networks, and norms is positively associated with increase in utilization of active and safety net strategies;

Hypothesis 2: Higher level of community trust, networks, and norms is not associated with increase in utilization of passive (depleting) strategies

3. Method

3.1 Data

The source of data is the 2010 Life-in-Transition survey, henceforth the LITS. The LITS is cross-sectional nationally-representative surveys conducted with support of European Bank for Reconstruction and Development (EBRD, 2009). The LITS data were collected in 2010, after beginning of the global crisis, with primary purpose to assess the impact of crisis to population of transitional countries in Eastern Europe and former Soviet Union. The list of transitional countries includes: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Ukraine, and Uzbekistan. The LITS collected information about household socio-demographics of the respondents, household wealth, households coping strategies, and social trust, networks, and norms. The LITS employs multilevel sampling design. Within each of participating countries, communities (primary sampling units) were selected based on probability proportional to size. After that, households were selected for the interview in each community based on systematic random sampling. About 1000 households were surveyed in each of participating countries through face-to-face interviews with a trained interviewer. The questionnaire is standardized for all countries. Due to the high quality and comparability, LITS has already been used for cross-country studies of transitional countries (Habibov 2013). Sample description of the LITS by countries is reported in Appendix 1.

3.2 Outcome variables: coping strategies

The LITS asked whether any member of surveyed household had to use one or several coping strategies during the last two years as a direct result of crisis. The survey contains six responses which encompass household active strategies, five responses which encompass safety net strategies, and sixteen responses which cover passive (depleting) strategies. Response for all these questions is binomial and equals to 1 if someone in household uses the strategy, and equal to 0 if otherwise. As in other studies on coping strategies (Gerasimova 2005; Fiszbein, Giovagnoli, and Aduriz 2003; Bidani, Diagne, and Zaidi 2012), these questions are asked about household situation and responses are not mutually exclusive. It means that households may use a combination of coping strategies. For instance, household may use more than one active strategy at the same time.

As an example, one household member took the second job, while another one increased number of hours in existing job. Likewise, household may use more than one strategy. As an illustration, one household member increases working hours – an active strategy, while another one applies for social assistance benefits – a safety net strategy. Therefore, six questions on active strategies were summarized into an active strategies index. The index varies from 0 if no active strategies were used to 6 if all six available active strategies were used. In the same way, seven questions on safety net strategies were summarized into active strategies index. The index varies from 0 if no safety net strategy was used to 7 if all safety net strategies were used. Similarly, sixteen passive (depleting) strategies were summarized into an additive index which varies from 0 if no passive strategy used, to 16 if all passive strategies were used. Descriptive statistics for the components of each coping strategies and additive indices are reported in Table 1, while detailed discussion is provided in descriptive result section.

At the preliminary stage of our research we experimented with an alternative approach for the outcome variable. Following Lokshin and Yemtsov (2004), we reduced our continuous outcome indices to binomial variables. For instance, for passive strategies such binomial variable takes value of 1 if household used any of sixteen available passive responses and takes value of 0 if household used none of sixteen available active responses. In our case, regression models with binomial variable did not concave indicating as using categorical outcome variables is problematic (Rabe-Hesketh and Skrondal 2012). It must also be noted that using binomial variable instead of additive indices lead to loss of information about the severity of household situation. For instance, household that has to employ several passive strategies is likely worse-off than household that has to employ only one such strategy.

3.3 Community-level social capital

In the LITS, social trust was evaluated by the question, “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?” Responses were collapsed into a binomial variable where 1 = complete trust and 0 = otherwise. Mean of social trust for each community in the survey is computed as a proxy of community-level trust (Snelgrove, Pikhart, and Stafford 2009; Habibov and Afandi 2011). Descriptive statistics for the social trust can be found in panel A of Table 2.

Networks involvement was evaluated in the LITS by asking respondents about their active participation in networks of eight organizational types (religious, sport, labour union, etc). Each of

eight responses are binomial where 1 = active participation and 0 = otherwise. As suggested by previous studies (Grootaert 1999; Habibov and Afandi 2011), responses from the above-described eight binomial variables were summarized into an additive index. Thus, index has value of 0 if respondent reported no active participation in a network and value of 8 if respondent reported active participation in all eight networks. For the community-level networks, we computed mean of the index for each community in the survey that serves as a proxy for community-level networks (Snelgrove, Pikhart, and Stafford 2009, Maluccio, Haddada, and Mayb 2006). Consequently, the higher value of the index for a community, the higher is networks' involvement in the community. Detailed questions and descriptive statistics for the network participation can be found in panel B of Table 2.

The support for social norms was assessed in the LITS by the questions about seven types of behaviours which violate the norms such as buying university degree and public officials asking for favour in return for service. The responses were collapsed into binomial variables where 1 = respondent believe that a given behaviour is seriously wrong and 0 = otherwise. Responses from these seven binomial variables are summarized into an additive index. The index has value of 7 if respondent indicated that all behaviours which violate the norm are seriously wrong and value of 0 if respondent indicated all these behaviours could be tolerated. For the community-level norms, we computed mean of the additive index for each community in the survey that serves as a proxy for community-level norms. Hence, the higher value of the index for community, the higher is support for norms in the community. Detailed questions and descriptive statistics for norms can be found in panel C of Table 2.

At the preliminary stage of our research we experimented with an alternative approach for the social networks and norms. Thus, we attempted to apply data reduction techniques such as factor analysis and principal component analysis to reduce a collection of several networks measures to a single underlying factor. However, estimations of data reduction techniques in main statistical software packages (e.g. SPSS, Stata, SAS) currently does not take into account multilevel structure of data. Ignoring multilevel structure of data skews results significantly and makes them biased (Basilevsky 1994; Pett, Lackey, and Sullivan 2003). Therefore, we decided to stay with more statistically straightforward additive indices described above.

Finally, we considered the problem of multicolinearity. Theoretically, using the number of community-level social capital variables in the same regression models can be problematic due to multicollinearity. We tested multicolinearity in our models by using VIF (variance inflation

factor). As a rule of thumb, a variable with VIF greater than 10 should trigger further investigation (Baum 2006). In our case, no variable has VIF higher than 10 with the notable exception of age and age-squared control variables which are collinear by design.

3.4 Control variables

Since the coping strategies are household-based, most of our controls which affect them are also household variables. These controls are the same as used in the previous studies (Gerasimova 2005; Gerry and Li, 2010; Notten and de Crombrughe, 2012; Bidani, Diagne, and Zaidi 2012) and includes two block of variables: (1) household social economic characteristics, specifically, age, age-squared, gender, and education of household head as well as household size, (2) household wealth, namely, household expenditures, car, and second residence. To account for variation in cross-country level of economic development we control for GDP. To account for variation in degree of crisis impact across countries we control for GDP growth. Descriptive statistics for control variables is reported in Appendix 2.

Ideally, an analyst would control for a number of country and community level characteristics. Habibov (In Press) points out that at the country level analyst should control for the variation in speed of transition, for example, countries late reformers versus countries early reformers, for historical context, for example, political or economic instability, and ethnic or civil conflicts, as well as for socio-economic context, such as differences in legislation and design of social welfare state. At the community level, analyst should control for cultural differences, such as ethnic and religious composition, divergence in values, attitudes, and ideologies, and variation in community unemployment and socio-economic development in general. Unfortunately, information about the above-mentioned characteristics in standardized form is not available for the most of transitional countries, especially those in Balkans, Caucasus, and Central Asia. Thus, we use multilevel regression model to control for unobserved characteristics, as discussed in details below.

3.5 Estimation

Three-level mixed-effect linear regression models are estimated to differentiate the impact of variables at household, community, and country levels (Hox 2010; Rabe-Hesketh and Skrondal 2012). In these models households (level 1) are nested in communities (level 2) which are nested in countries (level 3). In our case multilevel mixed models have two main advantages over classic single-level OLS. First, using multilevel regression allows us to fully exploit hierarchical structure

of the LITS. Ignoring hierarchical multilevel structure of data set makes regression results biased. Second, using a particular coping strategy is likely to be correlated among households due to unobserved community-specific and country-specific characteristics. The lack of information regarding unemployment, expenditure for social welfare, ethnic and religious composition, culture, traditions at community and country levels in transitional countries are the instances of such unobserved characteristics.

The results of multilevel models estimation consists of fixed and random effects. Fixed effects demonstrate relationships between household, observed country-levels variables (GDP and GDP growth) and community-level variables (social capital) on the one hand, and coping strategies on the other hand. Thus, fixed effects quantify how much variation in coping strategies is due to differences between household and observed community and country level characteristics. The random effects include two variance components between countries (level-3) and between communities within the countries (level-2). Using these variance components, it is possible to disaggregate the total variance into specific variances that are attributable to community- and country-level by the intraclass correlation coefficient (the ICC). The ICC shows the percentage of variation in coping strategies which cannot be accounted for by the households, and observed community and country characteristics and hence belongs to unobserved community and country characteristics. The ICC varies from 0 to 1. Higher value of the ICC indicates higher percentage of total variation in the coping strategies that is due to the unobserved characteristics. To facilitate the discussion, we transform the ICC to a share of the total variance in percentage ($100 \times \text{ICC}$).

4. Results

4.1 Descriptive results

[Please insert Table 1 about here]

The distribution of active strategies is reported in panel A of Table 1. A visual inspection shows that the most widely active strategy of coping with crisis was increasing work hours in existing job – 5.5%, followed by the getting a second job – 4.1%. The least used strategy was moving to new location – 1.2%. The additive index of active strategies that is reported in the last two rows of Table 1 demonstrates that most households – 84.5% used no active strategy during the crisis. Only about 13% percent of households used at least one active strategy. In comparison, about 2%

combines two active strategies simultaneously. The share of households which used four and five strategies is rather minuscule. None of the surveyed households used all six active strategies.

The distribution of safety net strategies is reported in panel B of Table 1. The most popular household safety net strategy during the crisis was borrowing money – 32.9%. The second most popular strategy was applying for child benefits – 8.9%. Approximately 6.3% of households responded to crisis by applying social assistance and unemployment benefits. Only 3.6% of households responded to crisis by applying for housing benefits. The additive index of safety net strategies indicates that most households – 57.2% used no safety net strategy during the crisis. By contrast, about 31.6% of households utilized at least one safety net strategy, while about 8% and 2% of all households utilized combination of two and three safety net strategies respectively.

The distribution of passive (depleting) strategies is reported in panel C of Table 1. The most widely used passive strategy to cope with crisis was reduction in luxury goods consumption – 45%. However, more than 38% of households reported that they had to reduce consumptions for staple foods. About 15% delayed payments to utilities, and more than 9% stopped or reduced helping relatives or friends whom they helped before. Remarkably, about 13% households postponed or skipped visits to the doctors after falling ill, and more than 10% stopped buying regular medication. By sharp contrast with the previously discussed active and safety net additive indices, the additive index of passive strategies indicates that only minority of household in traditional countries were able to avoid any of passive strategies during the crisis – about 26%. In comparison, about 16% of households had to utilize at least one of passive strategies, while about 19% and 15% of households had to employ two and three strategies simultaneously. Another 10% of households had to use combination of four passive strategies.

[Please insert Table 2 about here]

The distribution of social capital variables is reported in Table 2. As shown, 3.6% of all respondents have complete trust in people. With regards to active membership in organizations, the highest reported share of respondents participated in religious organizations, followed by sport and labour organizations. In general, however, active membership is rather low inasmuch as about 87% reported no active participation and about 10% reported participation in only one organization. With regards to strongly supporting norms, about 59% of respondents believe that it is seriously wrong to buy a university degree and about half of respondents believe that it is seriously wrong to public officials to ask for a gift or a favour in return of service. In comparison, only approximately

27% and 22% percent consider seriously wrong avoiding taxes and exaggerating insurance claims. Overall, 30% of respondents do not consider breaking the norms seriously wrong, as shown by additive index. By contrast, only 2.7% of respondents consider breaking all the norms seriously wrong.

4.2 Regression results

[Please insert Table 3 about here]

The result of three-level regression is reported in Table 3. Three regression models are estimated. Model 1 is the empty model with outcome variables only, but without social capital and control variables. The purpose of Model 1 is to estimate the effect of unobserved variation at community and country levels in the absence of independent variables. The results of this model serve as a point of reference for the magnitude community and country level variations in all subsequent models. As shown in the random effect part of the model, ICC at the community level fluctuates from 0.12 to 0.30 indicating that effect of unobserved characteristics originated at the country level on utilization of active, safety net, and passive strategies is between 12% and 30% respectively. Effect of unobserved characteristics at country level is considerably lower and varies between 1.4% for active strategies to 7.9% for passive strategies. Likelihood-ratio test for all strategies in Model 1 is significant signalling that multilevel model should be preferred over single level OLS.

Community-level social capital variables are added in Model 2. The objective of this model is to take into account only community-level social capital predictors to estimate the unadjusted contribution of community social capital to coping strategies without any effect of control variables. As observed in the fixed effect part of the model, community trust has significant positive effect on utilization of active strategies. In average, one unit increase in community trust is associated with 52% increase in utilization of active strategies, holding all other variables constant. Likewise, one unit increase in community network density is associated with 15% increase in utilization of active strategies. All other social capital variables are not significant. In random effect part, ICC values do not change considerably as compared with the empty model. Likelihood-ratio tests favour multilevel regressions over single level OLS for all strategies. Lastly, results of the Wald tests reject the hypothesis that community-level variables in regression estimations are equal to each other.

A set of control variables added in Model 3. This model serves to estimate whether community-level social capital has influence on coping active strategies after taking into account all control variables. In the fixed effect part of the model, community trust and community network density remain significant with positive effect on utilization of active strategies. One unit increase in community trust is associated with 58% increase in utilization of active strategies. Similarly, one unit increase in community network density is associated with 15% increase in utilization of active strategies. In random effect part, ICC values further reduced as compared with the previous models. After taking into account all control variables, unobserved variation in active, safety net, and passive strategies at the community level is 11%, 15%, and 30% respectively. In comparison, unobserved variation at country level is considerably smaller – 1%, 2%, and 7%. As in the previous model, Likelihood-ratio tests favour multilevel regressions over single level regression, while Wald tests reject the hypothesis that all variables in regressions are equal to each other.

Finally, the total sample was split to EU and non-EU members to explore variation between two groups of countries. The specification is the same as in Model 3, but only community-level social capital variables are reported in the fixed effect part to conserve the space. The results of estimations are reported in Table 4.

[Please insert Table 4 about here]

Model 4 is estimated for EU sample only. Community-level trust and networks are positively associated with increase in active coping strategies. These are the same results as in Model 3 for the full sample. In addition, community level trust is positively associated with increase in safety net strategies. Model 5 is estimated for non-EU sample. Community-level networks are positively associated with increase in active coping strategies. This result is the same as in Model 3 for the full sample. Besides, community networks are positively associated with increase in active coping strategies. The share of unobserved variation at country and community levels in Models 4 and 5 are also similar to those reported for the full sample. Finally, Likelihood-ratio tests confirm that multilevel regressions should be estimated instead of single level regression, while Wald tests reject equality of regression coefficients.

5. Discussion and conclusion

In this paper, we focus on household coping strategies in transitional countries after 2007 global crisis. We hypothesized that community-level social capital increases participation in active and

safety net coping strategies. To test this assumption, we applied a series of multilevel regressions on the nationally-representative surveys in transitional countries of Eastern Europe and the former Soviet Union. The empirical results documented in this paper allow us to draw several conclusions.

First, in general, community-level social capital increases utilization of active and safety net coping strategies in after-crisis transitional countries. The conclusion remains robust under different statistical specifications. From theoretical standpoint, this finding demonstrates that social capital in transitional countries is “truly” capital and has quantifiable return (Bourdieu 1984 and 1986). It also confirmed that social capital in transitional countries is a resource which accumulated and maintained at community level and that community-level social capital can benefit members of the community (Putnam 1993; Coleman 1988).

This finding also suggests that there is statistically significant connection between community social capital and coping with the impact of the crisis. As Putnam (2000) suggested, people living in communities with high social capital may largely benefit from it and become productive regardless of his/her personal social capital endowments. We find that households more often employ active or safety net strategies in communities with higher level of social capital. As such, our findings reveal the relevance of community social capital to poverty reduction processes and increasing household’s productivity.

From public policy standpoint, this finding suggests that community-level social capital is an important tool for improving population welfare during and after the crisis. Thus, policy measures that help communities to accumulate more social capital through trustworthiness and social networking can have an important impact on the welfare of the population of transition economies. Encouragingly, several studies reported that social capital could be intentionally cultivated in a wide range of context. Snoxell et al. (2006) described an example of successful social capital cultivation in a context of a community-based agency. By contrast, Mehmetab, Tahirogluc, and Lid (2002) discussed social capital formation in the framework of large-scale development projects. Finally, Oorschot and Finsveen (2009) emphasized the role of welfare state in social capital cultivation.

Second, the crisis has negative impact of population welfare in transitional countries. Majority of households, about 75%, had to use a depleting strategy to cope with the crisis. Furthermore, many households had to use a combination of more than one depleting strategy to cope. In comparison, a considerably smaller share of households used safety net strategies as an insurance against

economic shocks. Moreover, even among those who used a safety net strategy, the majority had to borrow money rather than apply for formal social welfare programs. Relatively low number of respondents who applied for social benefits can be explained by ineffectiveness of social welfare system in transitional countries due to interplay of three factors (Habibov and Fan 2007a and 2007b). One factor is high level of undercoverage meaning that higher proportion of the needy is not covered by any social welfare program. Another factor is leakage meaning that even if the needy are covered, the considerable share of benefits leak to non-needy and inadequacy of benefits. The last factor is inadequacy of benefits meaning that even if the needy receive benefits, the amount of them is not adequate to protect against poverty. Overall, social welfare in transitional countries showed its ineffectiveness in time of the crisis.

Third, we found that unobserved characteristics at country and community levels are important in explaining variation in coping strategies utilization. The significant effect at country and community levels indicates that a significant share of variation in coping strategies is originated in differences between countries and communities. However, although effect of social capital is significant on both country and community levels, the magnitude of the effect at country level is considerably lower than the effect at community level regardless of statistical specification employed. The highest country-level effect is 6.5%, while highest community-level effect reaches 30%. This finding has a policy implication. It demonstrates that coping strategies of households in the same communities is alike. It also demonstrates that coping strategies is different between communities. All together these findings suggest the vitality of community-based poverty reduction interventions. Previous studies highlighted the importance of community-based poverty reduction (Conning 2002; Dasgupta and Kanbur 2005; Bender, Kaltenborn, and Pfliedere 2013). Consequently, the finding of this study adds important evidence in support for community-based poverty reduction initiatives.

Finally, we must highlight several limitations of this study. First, this study is cross-sectional. Therefore, only association no causal relationships could be established. Second, this study uses a secondary analysis of the existing survey. This survey was not created with the specific objective to measure social capital at the community level. Hence, there is always a chance to get different result if one uses different indicators of social capital. Third, some degree of self-selection could be assumed, for instance, wealthier households may have higher propensity to reside in communities with higher level of social capital. However, labour markets in transitional countries typically suffer from low level of labour force mobility, while household registration system in

many countries of the former Soviet Union restricts household mobility (Habibov 2010). Fourth, one should never lose the sufficiency limitation of social capital. As suggested by Falco and Bulte (2011), social capital's welfare contribution needs to be activated by a combination of other factors, including but not limited to formal institutional setups, government's effective intervention and leadership in the community.

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Table 1. Outcome variables: household strategies in dealing with the crisis

Strategies	Percent	Additive index	
		Number	%
<i>Panel A: Active strategies</i>			
Someone who was working took the second job	4.18	0	84.49
Someone increased work hours in existing job	5.52	1	12.95
Someone who was not working before found a new job	2.83	2	2.17
Enrolled in further education because of lack of job opportunities	2.86	3	0.31
Sell an asset	2.65	4	0.07
Moved	1.26	5	0.02
		6	0.00
Total for active strategies			100.00
<i>Panel B: Safety net strategies</i>			
Applied for unemployment benefits	6.34	0	57.22
Applied for housing benefits	3.68	1	31.62
Applied for child benefits	8.85	2	8.13
Applied for social assistance benefits	6.36	3	2.09
Borrowed money	32.92	4	0.71
		5	0.23
Total for safety net strategies			100.00
<i>Panel C: Passive strategies</i>			
Reduced consumption of staple foods such as milk, fruits, vegetables, and bread	38.23	0	26.87
Reduced consumption of luxury goods	45.06	1	16.01
Reduced consumption of alcoholic drinks such as beer, wine, etc.	17.1	2	18.66
Reduced use of own car	16.74	3	14.93
Reduced vacations	2.12	4	10.00
Reduced tobacco smoking	11.59	5	6.15
Postponed or withdrew from university	2.79	6	3.46
Postponed or withdrew from training course (e.g. language, computer, or vocational)	2.65	7	1.76
Postponed or skipped visits to the doctor after falling ill	12.91	8	1.00
Cancelled health insurance (for self-employment activity)	2.91	9	0.54
Stopped buying regular medications	10.21	10	0.32
Stopped/reduced help to friends or relatives who you helped before	9.3	11	0.14
Delayed payments on utilities (e.g. gas, water, or electric)	15.04	12	0.08
Had utilities cut because of delayed payment	3.87	13	0.05
Cut TV / phone / internet service	5.82	14	0.01
Delayed or defaulted on a loan instalment	3.24	15	0.00
		16	0.02
Total for passive strategies			100.00

Note: Data is rounded up.

Table 2. Descriptive statistics for social capital variables

Variables	Percent	Additive index		Community level statistics	
		Number	%	Mean	Std Dev
<i>Panel A: General trust</i>					
Have complete trust in people	3.67				
Community level general trust in people				0.036	0.019
<i>Panel B: Active member of organizations/associations</i>					
Religious	5.7	0	87.06		
Sport	2.89	1	9.92		
Art, music, and educational	1.92	2	1.97		
Labour union	2.59	3	0.67		
Environmental	0.53	4	0.21		
Professional	1.33	5	0.08		
Humanitarian or charitable	1.6	6	0.04		
Youth	1.12	7	0.03		
		8	0.02		
Total for active membership in organizations and associations			100		
Community-level network participation				0.214	0.083
<i>Panel C: Norms (It is seriously wrong)</i>					
Speeding to take somebody to the hospital in an emergency	5.39	0	30.81		
Paying cash with no receipts to avoid paying VAT or other taxes	22.41	1	12.3		
Selling something second hand without mentioning all of its defects	34.84	2	15.92		
Making an exaggerated insurance claim	26.92	3	13.05		
A public official asking for a favour or gift in return of services	48.66	4	8.41		
Buying a university degree that one has not earned	58.97	5	6.96		
Keeping an accidental overpayment from an employer	32.65	6	9.77		
		7	2.79		
Total for norms			100		
Community-level norms				2.384	0.33

Note: Data is rounded up.

Table 3. Multilevel regression

	Model 1 (empty models)			Model 2 (social capital only)			Model 3 (social capital and all controls)		
	Active	Safety net	Passive	Active	Safety net	Passive	Active	Safety net	Passive
<i>Fixed effects</i>									
Community trust				0.524*	0.668	1.062	0.575*	0.755	1.076
				(0.247)	(0.441)	(1.364)	(0.243)	(0.431)	(1.359)
Community network				0.154**	0.076	0.184	0.146**	0.084	0.206
				(0.048)	(0.085)	(0.257)	(0.047)	(0.083)	(0.256)
Community norms				-0.021	0.005	0.128	-0.021	0.014	0.140
				(0.013)	(0.023)	(0.073)	(0.013)	(0.023)	(0.073)
Expenditure 1							-0.023**	0.120***	0.0644*
							(0.007)	(0.012)	(0.029)
Expenditure 2							-0.007	0.045***	0.053*
							(0.006)	(0.010)	(0.026)
Age of household head							0.001	0.011***	0.051***
							(0.001)	(0.001)	(0.003)
Squared age of household head							-0.000***	-0.000***	-0.000***
							(0.000)	(0.000)	(0.000)
Household head male							-0.003	-0.024**	-0.030
							(0.005)	(0.008)	(0.020)
Higher education of the head							0.013*	-0.095***	-0.249***
							(0.006)	(0.011)	(0.026)
Car							0.009	-0.163***	-0.000
							(0.005)	(0.009)	(0.023)
Second residence							0.013	-0.045**	-0.245***
							(0.009)	(0.016)	(0.038)
Household size							0.011***	0.061***	0.072***
							(0.002)	(0.003)	(0.007)
GDP per capita							0.000	0.000	-0.000
							(0.000)	(0.000)	(0.000)
GDP growth							-0.002	-0.014***	-0.034*
							(0.001)	(0.004)	(0.017)
Constant	0.189***	0.586***	2.233***	0.188***	0.531***	1.849***	0.157***	0.245**	0.855**
	(0.011)	(0.027)	(0.113)	(0.033)	(0.062)	(0.206)	(0.0418)	(0.079)	(0.284)

Random effects

Level 2 variance (community within country)	0.024 (0.001)	0.083 (0.003)	1.001 (0.039)	0.024 (0.001)	0.082 (0.003)	0.996 (0.039)	0.023 (0.001)	0.080 (0.003)	0.994 (0.039)
ICC for level 2 (community within country)	0.122 (0.006)	0.156 (0.009)	0.308 (0.016)	0.122 (0.006)	0.155 (0.009)	0.308 (0.016)	0.118 (0.006)	0.155 (0.009)	0.300 (0.016)
Level 3 variance (country)	0.003 (0.001)	0.020 (0.005)	0.348 (0.096)	0.003 (0.001)	0.020 (0.005)	0.354 (0.098)	0.003 (0.001)	0.016 (0.004)	0.325 (0.091)
ICC for level 3 (country)	0.014 (0.004)	0.031 (0.008)	0.079 (0.021)	0.014 (0.004)	0.031 (0.008)	0.080 (0.020)	0.013 (0.004)	0.027 (0.007)	0.076 (0.019)
Variance (Residual)	0.197 (0.001)	0.560 (0.004)	3.029 (0.024)	0.197 (0.001)	0.560 (0.004)	3.029 (0.024)	0.194 (0.001)	0.525 (0.004)	2.947 (0.024)
Observations	31933	31933	31933	31933	31933	31933	31876	31876	31876
Log likelihood	-20479	-37263	-64778	-20471	-37261	-64776	-20199	-36174	-64245
Likelihood Ratio test chi2	1961***	2956***	8555***	1947***	2947***	8510***	1828***	2841***	8353***
Wald chi2	N/A	N/A	N/A	15.51***	3.64***	5.48***	510***	2112***	834***

Note: Data is rounded up.

Robust standard errors in parentheses.

* p<0.05, ** p<0.01, *** p<0.001

ICC = interclass correlation coefficient

Table 5. The EU transitional countries versus non-EU transitional countries

	Model 4 (EU countries only)			Model 5 (non-EU countries only)		
	Active	Safety net	Passive	Active	Safety net	Passive
<i>Fixed effects</i>						
Community trust	0.703* (0.298)	1.145* (0.547)	1.440 (1.681)	0.423 (0.389)	0.349 (0.678)	0.392 (2.220)
Community network	0.106* (0.049)	-0.050 (0.090)	0.013 (0.271)	0.269* (0.109)	0.543** (0.189)	1.056 (0.615)
Community norms	-0.014 (0.015)	0.0439 (0.029)	0.125 (0.089)	-0.031 (0.021)	-0.031 (0.037)	0.157 (0.122)
<i>Random effects</i>						
Level 2 variance (community within country)	0.174 (0.001)	0.069 (0.005)	0.866 (0.053)	0.026 (0.002)	0.086 (0.005)	1.092 (0.056)
ICC for level 2 (community within country)	0.088 (0.007)	0.131 (0.010)	0.291 (0.027)	0.131 (0.009)	0.163 (0.011)	0.31 (0.018)
Level 3 variance (country)	0.001 (0.000)	0.007 (0.003)	0.334 (0.150)	0.003 (0.001)	0.016 (0.006)	0.195 (0.072)
ICC for level 3 (country)	0.002 (0.001)	0.013 (0.006)	0.081 (0.033)	0.016 (0.006)	0.029 (0.010)	0.065 (0.022)
Variance (Residual)	0.186 (0.002)	0.069 (0.005)	2.963 (0.039)	0.019 (0.002)	0.530 (0.006)	2.977 (0.031)
Observations	12186	12188	12188	19330	19330	19330
Log likelihood	-7390	-13692	-24601	-12779	-22416	-39670
LR test chi2(2)	383***	747***	24547***	1364***	1916***	5345***
Wald chi2	295***	1325***	537***	242***	925***	349***

Note: Data is rounded up.

Control variable are omitted as discussed in the text.

Robust standard errors in parentheses.

* p<0.05, ** p<0.01, *** p<0.001

ICC = interclass correlation coefficient

Appendix 1

Country and sample size

Country	Sample
<i>EU countries</i>	
Bulgaria	1014
Croatia	1006
Czech Republic	1007
Estonia	1002
Hungary	1054
Latvia	1007
Lithuania	1013
Poland	1616
Romania	1078
Slovakia	1011
Slovenia	1000
 <i>Non-EU countries</i>	
Albania	1055
Armenia	1000
Azerbaijan	1002
Belarus	1000
Bosnia	1087
Georgia	1000
Kazakhstan	1000
Kyrgyzstan	1016
Macedonia	1072
Moldova	1043
Mongolia	1000
Montenegro	1013
Russia	1584
Serbia	1519
Ukraine	1559
Uzbekistan	1500

Appendix 2

Descriptive statistics for control variables

Variable	Definition	Mean	Standard Deviation
Expenditure 1	Lower per capita consumption tercile within a country.	0.3321955	0.4710081
Expenditure 2	Middle per capita consumption tercile within a country.	0.3331663	0.4713528
Age of household head	Age of households head in years	45.36668	17.46927
Squared age of household head	Squared age of households head in years	2363.301	1712.746
Household head male	Household head male = 1	0.3908244	0.4879428
Higher education of the head	Household head has higher education = 1	0.1956597	0.3967139
Car	Household possess a car = 1	.4719847	0.4992223
Second residence	Household possess a second residence = 1	0.0795102	0.2705377
Household size	Household size (number of members in a household)	3.151379	1.749897
GDP per capita	Gross Domestic Product per capita adjusted for purchasing power parity	12223.51	7033.789
GDP growth	Gross Domestic Product growth (%)	-3.936968	6.790844

Note: All variables except of GDP and GDP growth are from LITS. GDP and GDP growth is from EBRD.