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Thriving and Surviving Activities of Households During the Crisis Period. Empirical Evidence from Southeastern Europe

Abstract. We use survey data from Southeastern Europe to investigate determinants which explain thriving and surviving activities of households as their response to the changes caused by the latest global economic crisis of 2007/2008. Contrary to most of the literature that investigates these types of activities as mutually exclusive, our modelling strategy identifies and then focusses on households that have used both of them in the period of crisis. Indeed, the thriving and surviving activities were often used simultaneously and they were mutually related as joint outcomes of a wider system of influences. We identify that both components of household strategies were systematically linked to the economic performance of households and to different dimensions of social capital—generalised trust and informal networking. We also find that different social capital dimensions interact and build in their influence on the success of households—i.e. more engagement in thriving and less in surviving activities.

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Introduction

Investigations of household strategies are particularly interesting and fruitful in periods of social crises and rapid social transformations. Postsocialist transition in Southeastern Europe, which brought the disintegration of old social structures, leading to anomie, as well as a drastic downfall of standards of living and an increase in unemployment,[1] forced all households to use various available resources at their disposal to survive or to improve their social stand-

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[1] Adnan Efendić / Azra Hadžiahmetović, Post-War Economic Transition in Bosnia and Herzegovina. A Challenging Transformation, in: Soeren Keil / Valery Perry, eds, State-Building and Democratization in Bosnia and Herzegovina, Farnham 2015, 109-129.

ing. Emphasising the importance of agency as opposed to social structures and including various forms of informal/domestic work besides formal employment in economic analysis, studies on household strategies have become one of the privileged ways of understanding what is happening in postsocialist societies, as well as their emerging stratification system.

The concept of household strategies can be traced back to the 1970s and 1980s, and was first mentioned in studies focussed on the urban poor of Latin America and Africa—specifically regarding household strategies of coping and/or survival. Its application then transferred to the study of marginal groups (especially immigrants) in the developed, postindustrial societies of Western Europe and North America. The key moment in the process of development of this type of research was when Ray Pahl and Jonathan Gershuny applied the concept to all households in their studies.[2] Later on, the concept of household strategies was fruitfully used in studies concerning flexible forms of work in the period of post-Fordist transformations during the last decade of the 20th century.

In most typologies of household strategies, it is possible to distinguish between offensive and defensive strategies. Thus, for example in Jiří Večerník's study from 1996,[3] he distinguishes between offensive or market strategies one the one hand, and several types of defensive strategies on the other hand, such as home production activities, economising activities, crisis or rescue activities and borrowing money.

Similarly, in her studies on reproduction and coping strategies,[4] Mercedes González de la Rocha distinguishes between household work strategies aiming at protecting or increasing household resources, and restrictive strategies that are focussed on cutting down or modifying household consumption of goods and services. What is of special significance for this current study is that De la Rocha points out that in actual practice many strategies have an element of both.[5]

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[2] Jonathan I. Gershuny / Ray E. Pahl, Work Outside Employment. Some Preliminary Speculations, *New Universities Quarterly* 34, no. 1 (1979), 120-135, DOI: 10.1111/j.1468-2273. All internet references were accessed on 15 December 2016; Ray E. Pahl, Divisions of Labour, Oxford 1984; Claire Wallace / Ray E. Pahl, Polarisation, Unemployment and All Forms of Work, in: Shela Allen et al., eds, The Experience of Unemployment, London 1986, 116-133.

[3] Jiří Večerník, Markets and People. The Czech Reform Experience in a Comparative Perspective, Aldershot 1996, 184.

[4] 'A reproduction strategy involves a series of economic and non-economic activities aimed at ensuring the long-term reproduction and wellbeing of the household unit and its members. A survival or coping strategy is typically a short-term response to shock and stress, and is implemented in order to cope with the expected and unexpected hardships of everyday life.' Mercedes González de la Rocha, Private Adjustments. Household Responses to the Erosion of Work, SEPED Conference Paper Series 6 (2004), 9, http://www.chs.ubc.ca/lprv/PDF/lprv0483.pdf.

[5] González de la Rocha, Private Adjustments. Household Responses to the Erosion of Work.

Not surviving ⟷ **Surviving** ⟷ **Coping** ⟷ **Thriving**

(decrease in well-being, *not making it*) | (on the edge, counterbalancing threat) | (maintaining well-being, *getting by*) | (conquering, increasing well-being, *getting on*)
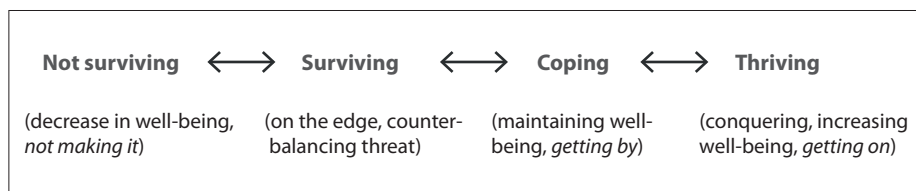
Figure 1. The coping continuum.[6]

In an insightful article by Aisha Jane Hutchinson, she makes a distinction between pro-active (offensive) strategies and reactive (defensive) strategies along a continuum.[7] On one end of the continuum are strategies that do not provide for survival, through to surviving strategies that can counterbalance threats, to those strategies that enable coping and maintaining well-being, with strategies that enable progress of the household and even increase well-being, on the other end of the continuum.

Bearing these studies in mind, the main novelty of our paper and its applied methodology is that we allow social determinants to affect both thriving and surviving activities to be used by the same households. This is contrary to the existing literature that often treats these activities (or strategies) as separate and mutually exclusive. The social determinants focussed on in this study include those related to economic status, social status and household characteristics, such as type, size and area of living.

The last global financial crisis of 2007/2008 affected the Southeast European (SEE) region heavily, causing an increase in unemployment and social payments by the governments. The negative economic consequences on households were inevitable. In such circumstances, households undertook a number of activities and developed more or less successful responses to the changed conditions, including emigration from the region.[8] This paper investigates how this context—i.e. economic, social and household specific determinants—affected the thriving and/or surviving activities of households as their response to the crisis. In this analysis we rely on survey data and on an endogenous structural model that jointly investigates determinants that affected surviving and thriving activities of households in the SEE region. Although it is expected that the role of economic performance of a household would have the most important effect in the model, the overall conclusion that we draw from this research, is

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[6] Cf. Aisha Jane Hutchinson, Surviving, Coping or Thriving? Understanding Coping and Its Impact on Social Well-Being in Mozambique, *British Journal of Social Work* 44, no. 4 (2014), 972-991, DOI:10.1093/bjsw/bcs167.

[7] Hutchinson, Surviving, Coping or Thriving?, 976.

[8] Adnan Efendić, Emigration Intentions in a Post-Conflict Environment. Evidence from Bosnia and Herzegovina, *Post-Communist Economies* 28, no. 3 (2016), 335-352, DOI: 10.1080/14631377.2016.1166800.

that different dimensions and levels of social capital in particular have affected household activities during the period of crisis. Simply, those households that reported improved economic performance and more developed social interactions did better, i.e. they were involved in more thriving and fewer surviving activities. Nevertheless, it is necessary to mention that some additional, non-regular activities of households were identified as being used by poorer families as well, such as selling assets or terminating education.

The paper is organised as follows: after this introductory section, we continue by presenting some initial data on the consequences of the global economic crisis and the responses thereof given by surveyed households in the SEE region. Hereafter we introduce our empirical model and discuss the obtained results. In our final section, we provide concluding remarks.

The Economic Downturn in Southeastern Europe and Responses of Households

The economic downturn which started in 2008, as a result of the financial and economic crisis, affected the SEE region heavily. The negative economic effects on these countries became apparent in late 2008 — as in most world economies — but had the most significant influence in 2009. However, the consequences of this crisis have not yet been overcome. Nevertheless, for this introductory investigation we report the current, that is 2015, macroeconomic indicators of Slovenia, Croatia, Serbia and Bosnia and Herzegovina, and compare them to the pre-crisis period, namely for 2008 (Table 1). Aggregated data of the European Union's (EU) member states are included to serve as our benchmark category (although Slovenia and Croatia are members of the EU, they should not affect significantly the EU average).

As can be discerned, the GDP per capita level has dropped in all four countries over the observed period, as well as in the EU in general. Moreover, unemployment increased from 2008 to 2015, and in Slovenia and Croatia the rate of unemployment even doubled. Finally, the percentage of the population living below the poverty line registered an increasing trend. The main conclusion that we draw from Table 1 is that the crisis had severe economic consequences in the SEE region, which is in our focus.

It is not only that economic indicators imply the negative consequences of the crisis five years later; household perceptions captured by the survey that was used for this paper provides consistent results.

In this research we rely on a targeted survey implemented in the SEE region as part of the project 'Life-Strategies and Survival Strategies of Households and Individuals in Southeast European Societies in the Times of Crisis'. The SEE countries covered by this survey include: Bosnia and Herzegovina (BiH),

Table 1. Macroeconomic indicators in SEE and EU.

	GDP per/capita (current US$)		Unemployment rate (% of labour force)		Percentage of population living below the poverty line	
	2008	2015	2008	2015	2008	2014
Slovenia	27,502	20,713	4.4	9.1	11.3	14.5*
Croatia	15,894	11,536	8.6	16.9	20.5	29.9*
Serbia	6,702	5,144	14.4	18.5	6.1	9.2*
BiH	4,975	4,198	23.4	27.7	18.2	18.5
EU	37,922	31,843	6.8	9.7	24.4	24.8

Note: *Data for 2013. Source: World Bank, International Monetary Fund (IMF), and National statistical offices.

Croatia, Slovenia and Serbia. This regional survey was conducted by a single company (Ipsos Plus) with separate branches in all four countries, where the survey was simultaneously implemented. The sample size is 3,904 observations/households, i.e. around 1,000 observations per country on average (details in Table A1 in the appendix). The survey was implemented by face-to-face interviews and Computer Assisted Personal Interviewing (CAPI) in the households of respondents. The research was conducted on a random, two-stage stratified sample of adult citizens from these four countries. The first stage of stratification was on a regional level, and in the second stage a sample of each region was stratified by the sample size. To ensure a random sample, a standard method of random sampling was used according to the following steps: random settlement selection within stratum (strata are defined by region and settlement size); random starting point selection within settlement; random household selection using random walk method; and random selection of respondents in selected households. The research included citizens who have been living in the country for longer than one year and who are able to fluently speak the mother language of the respective country. The data were finally organised in an SPSS file, and later transferred to STATA 14 software, which was used for the transformation of variables and empirical econometric modelling.

Our analysis starts with a question regarding the economic situation of households today compared to the situation five years earlier. This question is designed to capture the effects of the global crisis, i.e. the change in the economic situation in the region. The scale ranges from 1 (completely unsatisfied) to 10 (completely satisfied). The mean values are presented in Table 2.

The perception of the economic situation of households in all the SEE countries in focus, in comparison to the pre-crisis period, worsened. The situation deteriorated by 22% in BiH, 27% in Croatia, 25% in Serbia, and 29% in Slovenia.

Table 2. Perceived economic situation of households (HH).

	Perceived HH economic situation five years ago (2009)		Perceived HH economic situation today (2014)	
Country	Mean	Standard deviation	Mean	Standard deviation
BiH	5.18	2.290	4.03	2.219
Croatia	6.11	2.089	4.50	2.401
Serbia	5.38	2.185	4.06	2.283
Slovenia	6.59	2.204	4.59	2.999
Total	5.80	2.206	4.28	2.999

Notes: 1 is the lowest value while 10 represents the highest value in the scale.
Source: SEE Survey data 2014.

Table 3. Positive changes in the last five years (thriving activities).

Description (% of respondents who answered this binary question with YES)	Country				Average
	BiH	Croatia	Serbia	Slovenia	
Invested in business	7.4	7.2	8.3	5.3	7.1
Bought real estate	4.3	5.1	5.4	7.5	5.5
Bought a car	13.6	16.8	14.4	34.7	19.5
Saved money	9.9	14.4	8.2	20.2	13.0
Decrease debt	9.6	15.6	12.1	16.5	13.4

Source: SEE Survey data 2014.

Table 4. Negative consequences of the crisis (surviving activities).

Description (% of respondents who answered this binary question with YES)	Country				Average
	BiH	Croatia	Serbia	Slovenia	
Being forced to terminate some of the household members' education	8.2	2.9	6.7	12.7	7.3
Been forced to spend some savings	43.6	56.6	51.4	67.7	55.5
Been forced to borrow money	62.3	58.0	67.9	40.2	57.6
Being forced to sell gold, silverware, jewellery	15.2	27.4	9.9	11.4	16.1
Been forced to sell a car	12.1	14.4	10.9	16.1	13.3
Been forced to sell real estate (house, apartment)	6.2	2.2	2.2	3.4	3.1
Been forced to sell arable land	4.7	7.5	7.7	6.1	6.8

Source: SEE Survey data 2014.

These drops were higher in Slovenia and Croatia than in BiH and Serbia, even though the former are more developed and have a much higher standard of living. Still, this is in line with convergence theory as well as global economic trends—more developed economies, on average, were affected more than less developed ones.

The main research question that we investigate is: what determines the economic activities that households used during the period of the crisis? Our primary focus is in the context of taking advantages of the crisis (thriving activities) or dealing with the negative consequences (surviving activities). The next table provides descriptive statistics of those households that reported positive changes to their economic situation during the period of crisis (thriving), specifically in the context of investing, increasing savings, decreasing debt, and buying real estate and cars (see Table 3).

Around 40% of the total households reported at least one activity that can be categorised as a thriving response. When examining the data by country, the biggest number of these activities (on average) is recorded in Slovenia, followed by Croatia, Serbia, and BiH, which is also economically the least developed in the sample.

Contrary to the previous questions, the next table presents the information on those households that were forced to sell their property (e.g. jewellery, cars, real estate and land), spend their savings or drop out of school. Simply, these are negative consequences of the crisis, which resulted in households engaging in one or more activities that can be categorised as surviving strategies (see Table 4).

Results show that in all the surveyed SEE countries, households increased their debts (i.e. borrowed money). This is an activity that was the most frequently reported in the sample, suggesting that the majority of households increased their debt in order to cope with the changing conditions in the region. Apart from increasing debt, the households that had some savings also reported that they increased spending of the saving they possessed. These two activities are reported by some 60% of households on average, with a noted difference that in the less developed countries (BiH and Serbia) indebtedness dominated, while in the more developed countries (Croatia and Slovenia) spending of savings took the first place. Table 4 also indicates that often households sold their assets, such as car, land, and jewellery.

Summarising the findings from the discussion above, we can identify a certain balance between the different activities used to cope with the effects of the crisis, by giving a general conclusion that 'surviving' activities were reported by more households than 'thriving' ones. While activities regarding thriving and surviving strategies are mainly treated as separate concepts in the literature, our data do suggest that both strategies were used by some households separately (engagement in either thriving or surviving), but also they were used by some

households simultaneously (engagement in thriving and surviving). A simple cross-tabulation check suggests that some 23% of households did not report any of the activities, some 19% relied on both, while 40% were engaged in surviving activities only, and the remaining 18% were engaged in thriving activities only. Since households that simultaneously use both types of strategies are the least investigated, they will be in our primary focus. Nevertheless, we will also consider households that used a variation of activities, but singly.

Finally, we do not argue in this paper that by examining these two categories of household activates we capture all possible responses of households—but rather capture some of the most likely activities (the range of activities may theoretically be infinite). That is also one of the reasons why we use the term 'activities' rather than 'strategies'—as the term 'strategies' would include more activities than we can capture with our data. Apart from this limitation, it is always challenging to capture 'strategy' through static cross-section survey data.

An Empirical Investigation of Household Activities in the Crisis Period

Our empirical approach is affected by reasoning regarding the potential relationship between thriving and surviving activities of households discussed in the introductory section of this paper. In the choice of our method of estimation, we rely on the survey outcomes presented earlier, in which we identify that households reported to use thriving and surviving activities in the crisis period, and used both categories of activities separately as well as in combination. In addition, the modelling framework that we use assumes that both thriving and surviving activities employed by households in the surveyed SEE region can differ according to observed factors (e.g. macroeconomic environment, household economic performance and different dimensions and levels of social capital) as well as non-observed systematic ones (i.e. endogenous), which influence the model. Furthermore, this modelling framework enables us to test some equation-specific (i.e. thriving or surviving specific) determinants, which are identified as being important in the process of estimation. Following a methodological approach used by Efendić, Pugh, and Adnett,[9] we investigate the correlation between household thriving and surviving activities, their common and specific observed, as well as unobserved, influences. We model these relations by using a system of regression equations, which is estimated as a seemingly unrelated bivarate probit model (SUPM). The main feature—and advantage—of this approach is that we can capture more complex influences in the model than by

using a simple simultaneity. There is no model that is perfectly correct, but we believe that our approach seems to be a better choice than a model based on simple mutual causation.[10]

We will estimate SUPM with the following model specification:

$$thriving_1 = \hat{\beta}_1 + X_K \cdot \hat{\beta}_{1,K} + \hat{u}_1 \tag{1}$$

$$surviving_2 = \hat{\beta}_2 + X_K \cdot \hat{\beta}_{2,K} + Z_{2,B} \cdot \hat{\beta}_{2,B} + \hat{u}_2 \tag{2}$$

$$\hat{\rho} = Cov(\hat{u}_1, \hat{u}_2) \tag{3}$$

This is a cross-section model with two dependent variables. In Equation (1) $thriving_1$ denotes an index capturing thriving activities of SEE households, while in Equation (2) $surviving_2$ codes for household surviving activities. $\hat{\beta}_1$ and $\hat{\beta}_2$ are the intercepts in Equations (1) and (2), respectively; $\hat{\beta}_{1,K}$, $\hat{\beta}_{2,K}$, $\hat{\beta}_{2,B}$ are vectors of coefficients to be estimated. Equation specific explanatory variables (capturing specific determinants of household surviving activities) in the second regression are denoted as Z_{2B} ($1 \times B$). $\hat{u}_1$ and $\hat{u}_2$ are potentially correlated error terms and they include unobserved influences that may contribute to the joint determination of thriving and surviving activities. In Equation (3), the parameter $\hat{\rho}$ can be interpreted as the correlation between the unobservable explanatory variables of the two equations.[11]

One of the most important statistical checks at the very beginning is to test the statistical significance, as well as the sign and magnitude of the coefficient ϱ. This test has two possible outcomes in this case:

1. $\rho = 0$ Unobservable influences on household thriving and surviving activities are not associated in the manner suggested by this model; hence, two separate models for investigation of these two activities are needed. This also means that households did not systematically use both types of activities, but that these are mutually exclusive and should be treated separately.
2. $\rho \neq 0$ Unobservable influences on household thriving and surviving activities are associated; hence, this model is an appropriate statistical generating mechanism. There is an endogenous link between thriving and surviving activities affected by common, specific and unobserved influences in the

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[10] David Roodman, Estimating Fully Observed Recursive Mixed-Process Models with Cmp, Center for Global Development Working Paper 168 (July 2009), http://www.cgdev.org/files/1421516_file_cmp_SJ.pdf.

[11] Daniel Fabbri / Chiara Monfardini / Rosalba Radice, Testing Exogeneity in the Bivariate Probit Model. Monte Carlo Evidence and an Application to Health Economics, Department of Economics at the University of Bologna Working Papers 514 (July 2004), DOI: 10.6092/unibo/amsacta/1552.

model presented above. This finding also implies that thriving and surviving activities of households are not mutually exclusive.

Following good practice, we present descriptive statistics of the variables used in the modelling procedures (including later sensitivity analysis) in Table A1 in the appendix.

Our dependent variables are constructed as aggregated indices proxying household thriving activities (those reported in Table 3) and household surviving activities (those reported in Table 4). Before creating an aggregated index for these two dependent variables, we conducted a factor analysis that suggested for both cases to combine responses from Table 3 and Table 4 into one single factor.[12] They are combined and for the purpose of this type of model, organised as dummy variables denoting values as reported in the previous table.

The literature review established the importance of household economic performance for involvement in thriving and/or surviving strategies. Accordingly, in both equations, we control for the level of household income reported by the respondents (*incomehi*) as well as the change in the economic situation of households over a period of five years (*ecworse*). It is important to control for both influences, since the current level of income can be fully different in comparison to the situation before the crisis; hence, it is important to control the relative change of their economic situation. We expect that households that have higher levels of income are more likely to be involved in more thriving activities and fewer surviving activities. Correspondingly, those households that reported a negative change in their economic situation are more likely to be involved in surviving activities.

It is well known that the macroeconomic environment is an important determinant of the average household performance, in particular as we have a sample with significant differences between countries in the achieved level of economic development. In that respect, we control for the macroeconomic performance of these countries (*gdppc*) by using the GDP per capita level (divided by 1,000). We argue that this is a good proxy not only for the current level of development, but this indicator captures the entire history of time-varying growth performance.[13] Moreover, focussing on per capita values means that

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[12] The factor analysis indicated that all items load onto a single factor in both cases. The eigenvalue for the first factor (*thriving*) is 2.6 and falls to 0.08 for the second factor. In addition, all factor loadings on the first factor are above 0.68 except for the fifth factor with a value of 0.4. In the second factor (*surviving*), the statistical tests are even better. The eigenvalue for the first factor is 4.05, while all factor loadings for this factor are above 0.67. Accordingly, the statistical tests suggest that we can rely on one factor as the most relevant.

[13] William Easterly, The Anarchy of Success, *The New York Review of Books*, 8 October 2009, 28-30, http://www.nybooks.com/articles/2009/10/08/the-anarchy-of-success/; Sudip Ranjan Basu, A New Way to Link Development to Institutions, Policies and Geography, UNCTAD Policy Issues in International Trade and Commodities Study Series 37 (June 2008), DOI:

the relative size of the surveyed SEE countries is taken into account, as well as the possibility that economic data are driven by countries.[14] We expect that those SEE countries that have higher levels of GDP per capita, hence better macroeconomic performance, are more likely to have households engaged in thriving activities than those countries with a smaller level of macroeconomic output. In relative terms, the level of GDP per capita of these countries did not change over the crisis period.

There is extensive and multidisciplinary literature examining the role of social capital in the everyday life of citizens and households.[15] It is not that easy to capture this effect as a result of different theoretical approaches, different dimensions of social capital as well as different levels of social capital. However, in our research and based on available data, we capture three dimensions with corresponding levels of social capital. Firstly, we focus on the general role of social capital in the model by controlling for the level of generalised trust (*gentrust*), since trust is seen as a key dimension of social capital in most of the literature.[16] Our measure captures the trust in unknown individuals as a reflection of confidence in wider social norms, which is the expectation of accepted behaviour of individuals in society in general.[17] For the purpose of this research we may treat it as a macro-level of social capital.[18] The second dimension that we use is institutional trust (*instrust*), which is trust in the functioning of the institutional framework including formal rules, organisations and enforcement mechanisms—this in consideration of the definition of formal institutions by Douglass North and the World Bank.[19] This dimension of social capital may

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10.2139/ssrn.1278030; Adnan Efendić / Geoff Pugh, Institutions and Economic Performance in Post-Socialist Transition. A Dynamic Panel Analysis, *Acta Oeconomica* 65, no. 4 (2015), 503-523, DOI: 10.1556/032.65.2015.4.1.

[14] Matthias Busse / Carsten Hefeker, Political Risk, Institutions and Foreign Direct Investment, *European Journal of Political Economy* 23 (2007), 397-415, DOI: 10.1016/j.ejpoleco.2006.02.003.

[15] E.g. Adnan Efendić / Bojana Babić / Anna Rebmann, Social Capital, Migration, Ethnic Diversity and Economic Performance. Multidisciplinary Evidence from South-East Europe, Bern 2017.

[16] Francis Fukuyama, Trust. The Social Virtues and the Creation of Prosperity, London 1995; Robert Putnam, Bowling Alone. The Collapse and Revival of American Community, New York 2001; Paul S. Adler / Seok-Woo Kwon, Social Capital. Prospects for a New Concept, *Academy of Management Review* 27, no. 1 (2002), 17-40, DOI: 10.5465/AMR.2002.5922314.

[17] Adnan Efendić / Tomasz Mickiewicz / Anna Rebmann, Growth Aspirations and Social Capital. Young Firms in a Post-Conflict Environment, *International Small Business Journal* 33, no. 5 (2015), 537-561, DOI: 10.1177/0266242613516987.

[18] Anna Rebmann / Adnan Efendić / Tomasz Mickiewicz, Nascent Enterprises and Growth Aspirations in a Post-Conflict Environment. The Role of Social Capital, in: Williams Colin / Gurtoo Anjula, eds, Routledge Handbook of Entrepreneurship in Developing Economies, Oxon and NY 2017, 70-89.

[19] The World Bank, Building Institutions for Markets – World Development Report 2002, New York 2002.

be treated as a meso-level of social capital. Finally, informal institutions, which include unwritten rules, codes, norms of behaviour and networks, are usually a neglected dimension in empirical research, primarily because of the problem of measurement.[20] We overcome this limitation and include a proxy that captures informal networks based on contacts with different public institutions at the disposal of the respondents (*infcont*). We argue that this is a micro-dimension of informal institutional[21] social capital at the disposal of the individuals being interviewed, and as such it is important to be included in this investigation. Since more social capital and social interaction is usually seen as an economic advantage of households and individuals, we expect that greater social capital at all examined levels will be associated with more success of households in terms of their greater involvement in thriving and less involvement in surviving activities.

The model that we use enables us to investigate specific determinants linked to the equations in focus. In our case, the statistical test suggests that household surviving activities are systematically affected by four additional determinants; unlike the thriving activities of households (i.e. if we include these independent variables in both equations then they become statistically insignificant, while the model diagnostics become weaker). At a very general level, this can also be treated as an interesting finding—those families that are in a worse economic position and are involved in household surviving activities systematically rely more on additional factors or activities than those in the thriving sample. Simply, this indicates that 'coping/getting by' activities are more challenging; they involve more actions and stamina than 'thriving' strategies. However, the systematic influences linked to the surviving activities of households include: social interaction within households (i.e. social capital), size and type of households, and additional household productive activities. It is interesting to note that the role of household social capital (*hsocial*) has been identified as important, but solely at the household level (inside the family). In addition, these are also households that report systematic reliance on additional productive activities (*activb*), which are additional activities undertaken next to regular jobs (including e.g. construction, plumbing, wiring, agriculture, etc). These activities were aggregated into a single factor since our factor analysis suggested that they can be combined.

In order to take into account the heterogeneity of the data that may be linked to the countries in focus (i.e. considering their differences in achieved level of

    [21] The question included the available non-informal links in: hospitals, schools/universities, police, courts, banks and companies, municipal, and regional and national government.

Table 5. Results from the baseline SUPM model (cluster-robust inference).

The dependent variable in the 1st equation: *thriving* (0 = no thriving; 1 = yes thriving) The dependent variable in the 2nd equation: *surviving* (0 = no surviving; 1= yes surviving activities)								
	Thriving				Surviving			
Variable	Coeff.	Robust SE	z-stat.	P>|t|	Coeff.	Robust SE	z-stat.	P>|t|
incomehi	0.628	0.095	6.58	0.000	0.118	0.080	1.47	0.141
ecworse	-0.168	0.057	-2.96	0.003	-0.401	0.091	-4.38	0.000
gdppc	0.028	0.004	7.10	0.000	-0.012	0.020	-0.59	0.555
gentrust	0.156	0.080	1.96	0.050	0.241	0.077	3.12	0.002
instrust	0.022	0.014	1.55	0.121	0.013	0.031	0.40	0.686
infcont	0.032	0.023	5.83	0.000	-0.042	0.017	-2.52	0.012
cons	-0.943	0.040	-23.35	0.000	0.790	0.279	2.83	0.005
hsocial					-0.037	0.021	-1.77	0.077
hsize					-0.065	0.014	-4.78	0.000
rural					0.119	0.040	3.01	0.003
activb					-0.377	0.044	-8.58	0.000
/athrho/	-0.185	0.042	-4.46	0.000				
Rho	-0.183	0.040						
Model diagnostics								
Number of observations				3,490				
Coefficient of correlation in the residuals				-0.18				
The Likelihood-ratio test of $\hat{\rho} = 0$				chi2(1) = 19.85; Prob>chi2 = 0.000				
The Wald test of rho = 0				chi2(63) = 59,731; Prob>chi2 = 0.000				

Source: Authors' calculations using STATA 14 (STATA 14, StataCorp, Texas, USA).

economic development), we estimate a robust standard error, in which countries are defined as clusters. This applies to all the estimated models below.

Finally, we estimate our baseline model focussing on the discussed determinants, although individual factors such as gender, age, education and marital status may be important as well. Since this is a household level investigation we do not include these determinants in the baseline specification, but as part of our robustness checks.

The results from the SUPM baseline model estimation are presented in Table 5, together with the statistical diagnostics.

Following good practice of empirical research,[22] we start our explanation by firstly focussing on the model diagnostics. The Wald test for the joint significance

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[22] Adnan Efendić, Institutions and Economic Performance in Transition Countries with Special Reference to Bosnia and Herzegovina, Saarbrucken 2010.

of our independent variables included in the model, rejects the null hypothesis at the highest level of statistical significance, namely that these variables are jointly equal to zero (p=0.000). Next, we rely on the Likelihood-Ratio test to investigate whether the coefficient $\hat{\rho}$ is equal to zero, which is the main test of statistical validity of the estimated model. If this coefficient equals zero, then we cannot rely on this statistical generating mechanism, and instead need to estimate two separate (probit) models for the two dependent variables. The result of the Likelihood-Ratio test implies that the SUPM model is an appropriate estimator for the examined links; hence, thriving and surviving activities of households are not two separate and exogenous concepts, but they are endogenously linked in our model.

The $\hat{\rho}$ coefficient is estimated with the highest level of statistical precision (p=0.000) confirming that we have a proper model. In addition, this coefficient is estimated with a negative correlation coefficient (-0.18) suggesting that more thriving activities of households are systematically associated with fewer surviving activities, and vice versa. It does not mean that households will not rely on both strategies; indeed, they can use both of them and the model identifies this mode of linkage, but also systematic regularity in the model—more thriving and less surviving activities as the general pattern. Later, we examine the models for combinations of households that reported to use only one of these activities, i.e. either thriving or surviving. To obtain the complete picture from this model, and to make interpretation understandable, the next step is to consider the observed joint and specific determinants, which we investigate by estimating the marginal effects of each variable on the probability that households are involved in thriving and surviving activities (Table 6).

We find that the majority of independent variables are statistically significant in their relationship with thriving and surviving activities of a household. A qualitative interpretation of the household economic performance, macroeconomic performance and social capital follows.

Household economic performance has the highest magnitude in the model. There is a 16% higher probability that households with higher incomes (*incomehi*) are associated with thriving activities in the period of crisis and less with surviving activities, in comparison to households with lower levels of income. In addition, these households that responded with a negative change in their economic situation over the period of crisis (*ecworse*), are associated less with thriving and more with surviving activities; with a high negative magnitude of 10%. All in all, these results are as expected and they underline the importance of economic performance of households in a period of crisis, which was linked to their activities that followed—either more thriving or surviving.

Macroeconomic performance indicates that the level of economic development (*gdppc*) is estimated with a positive sign, as expected, but it is not precisely

Table 6. Marginal effects of the SUPM model – thriving and surviving activities.

2-Equation Model: the values for the dependent variables are thriving=1 and surviving=1				
	Baseline model		Baseline model augmented for individual characteristics	
Variable	dy/dx	P>|t|	dy/dx	P>|t|
incomehi	0.156	0.000	0.125	0.000
ecworse	-0.097	0.000	-0.092	0.000
gdppc	0.004	0.165	0.006	0.068
gentrust	0.074	0.000	0.064	0.000
instrust	0.006	0.108	0.007	0.084
infcont	0.022	0.000	0.018	0.000
hsocial	-0.005	0.083	-0.005	0.239
hsize	-0.010	0.000	-0.006	0.000
rural	0.018	0.004	0.014	0.022
activb	-0.055	0.000	-0.051	0.000
age	–	–	-0.003	0.000
gender	–	–	0.022	0.223
married	–	–	0.032	0.003
educ	–	–	0.007	0.047

Note: dy/dx is for discrete change of dummy variables, from 0 to 1.
Source: Authors' calculations using STATA 14, StataCorp, Texas, USA.

measured (statistically not significant). Accordingly, there is no systematic effect of different macroeconomic performance on household activities in the region. Although some SEE countries are more developed than others, household activities during the crisis period are not explained or systematically influenced by this effect. Rather, it is explained with some other joint and specific influences that are similar between countries with different levels of economic development. However, this variable serves its statistical purpose to capture any cross-country economic effect in the model.

Social capital reveals that the different dimensions appear to be important for the examined household activities. After the household economic performance, the highest effect in the model is obtained for generalised trust (*gentrust*, at 7%). The positive and statistically significant coefficient implies that a higher level of generalised trust had a positive effect on household performance during the crisis period—more thriving and less surviving. While generalised trust is precisely measured and estimated, institutional trust (*instrust*) is on the borderline of statistical significance, notably with a positive sign and hence there is a positive effect in the model. However, the magnitude of this coefficient is very low (0.6%) suggesting that although institutional trust is associated with

more thriving and less surviving strategies, this effect is almost zero. Finally, informal contact networks (*infcont*) are important, with a magnitude of 2%, and a positive effect in the model. Simply, those households that reported having more informal links in different institutions are also more successful in terms of reporting more thriving and fewer surviving activities. This also signifies the importance of informal networks, and generally informal institutions, in everyday life of households in the region.

Next, we look at specific determinants related to household surviving activities only. These are activities that are not relevant for thriving types of households and include additional productive activities, location, size and social capital of households.

Additional productive activity of households (*activb*) is a statistically significant determinant in the model with a negative sign and has the highest specific magnitude at 6%. This result implies that those households reporting more additional activities are also households that reported fewer surviving activities (e.g. necessity to sell assets such as jewellery, car and land). Accordingly, this is a systematic influence in the model and an important response to the crisis by these households.

Rural versus urban household (*rural*) differentiation has a statistically significant effect in the model, a positive sign and magnitude of 2%. The findings suggest that rural households in comparison to urban ones were more involved in surviving activities. Apparently, the crisis seems to have affected more rural areas in the SEE region when we measure the effect through different forced activities of these households.

Size of households (*hsize*) has emerged as an important determinant in the model as well, having a negative sign and rather small magnitude of 1%. The negative sign implies that bigger households, on average, were less involved in surviving activities than smaller households. Bearing in mind the importance of social capital, informal networks and additional activity in the model, this finding is not surprising.

Household social capital (*hsocial*) is a statistically significant effect of social interactions within the family for surviving activities. The negative and statistically significant coefficient implies that households that reported more social interaction also reported fewer surviving activities, although this effect is very small (0.5%).

Having identified relevant determinants in the model, and especially different dimensions and levels of social capital, we combine these three dimensions (i.e. general trust, institutional trust and informal contact networks) to obtain a visual interpretation of their effects in the model. We estimate this interaction by augmenting the baseline model—as this procedure takes a rich variety of direct and indirect influences of these variables into account. All three variables

are now set to binary to make this interaction feasible and to facilitate interpretation. Interestingly, all of the combinations of interactions are statistically significant at the highest level of significance, indicating that there is interaction between the different dimensions of social capital. A visual interpretation of the all three combined factors is presented below (Figure 2).

Starting with the upper figure, the grey line identifies for those households with higher generalised trust and more informal links at different institutions. There is approximately a 35% probability that these households will be engaged more in thriving and less in surviving activities. The black line (left side) shows those households with no general trust and no informal contacts with institutions have the smallest probability (around 15%) of combining more thriving and fewer surviving activities. Notably, regardless of what the generalised trust is, this probability does not change much; hence, this conclusion is primarily led by the effect of having informal contacts or not. We will not comment the other combinations as they can be discerned from the figure.

Overall, the previous figure shows that different dimensions of social capital examined through *generalised trust, institutional trust* and *informal institutional contacts,* both individually and in combination, moved households in the surveyed SEE region towards greater probability of being in a better position during a period of crisis (more thriving and less surviving activities). However, there is a higher effect of generalised trust and informal institutional contacts than there is of formal institutional trust.

To sum up, by way of our investigation we identify three important findings:

1. Households in the surveyed SEE region overwhelmingly relied on thriving and surviving activities to overcome the negative consequence of the latest crisis. We identify that these activities were used separately by some households, but also in combination by other households. Thriving and surviving activities were identified to be determined by a number of systematic and endogenous influences, including in particular the household economic performance, social capital performance and household characteristics. Household surviving activities are identified to be under additional specific influences, which implies that these actions are more challenging and thus included more responsive actions.

2. In terms of observed determinants in the model, our findings suggest that the most important factor affecting whether households were more engaged in thriving or surviving activities is the economic performance of households, primarily in terms of the household income level as well as in terms of the change in the economic situation. This finding implies the importance of economic determinants for different activities used by households.

3. We also identify the underlying importance of different social capital dimensions for households in the surveyed SEE region and the activities they are
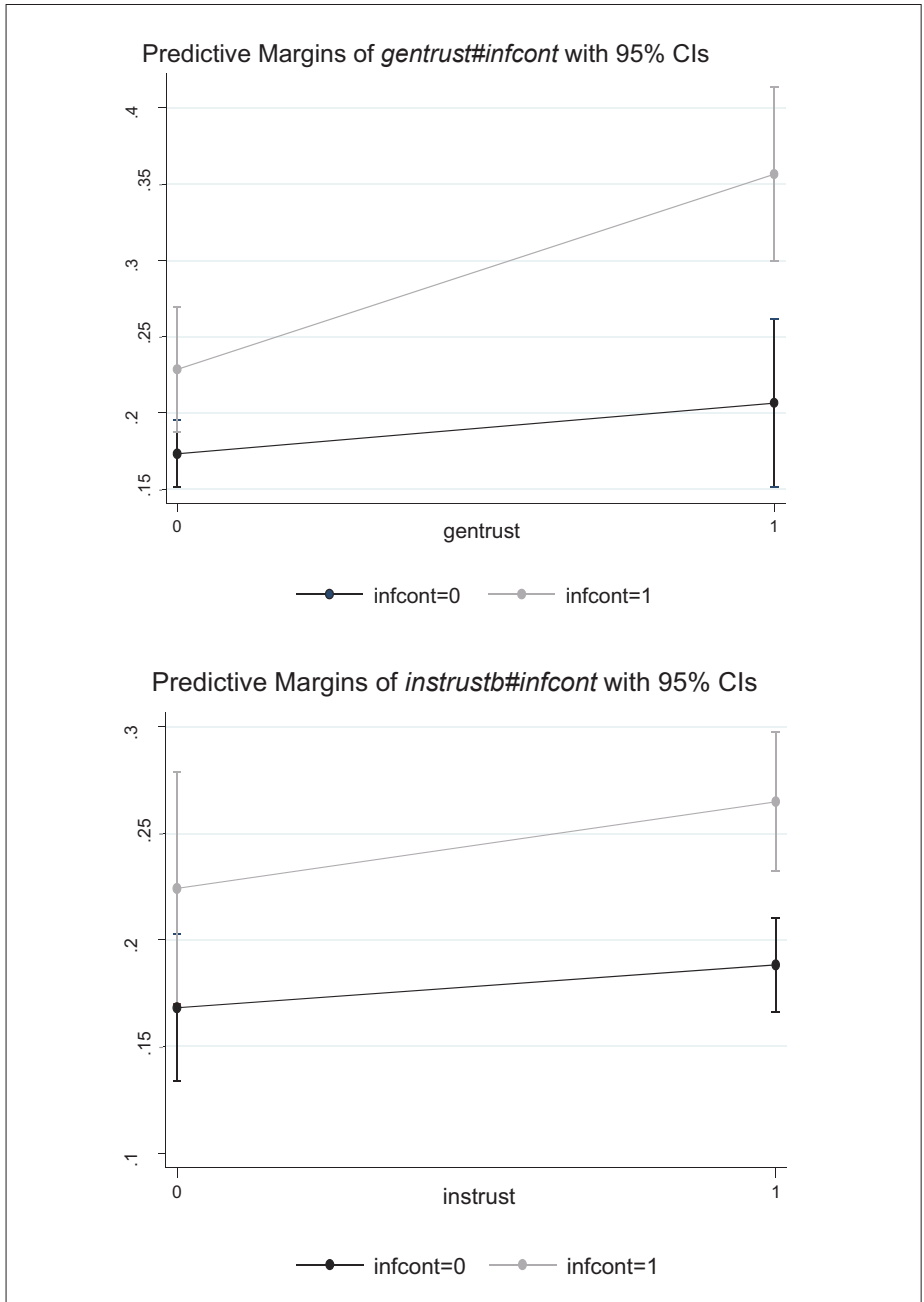
Figure 2. Interaction of general trust, institutional trust and informal contact networks –Pr(Thriving=1, Surviving=1).

involved in. In particular, we identify that generalised trust (macro-level) and informal contact networks existing on the ground (micro-level) are relevant. Simply, the trust in society is a factor positively linked with household performance in terms of employing more thriving and fewer surviving activities. In addition, the existence of informal contact networks at different institutions, which is a type of informal institutional support, was even more important in contributing to better outcomes of households during the period of crisis. Overall, we find that these social capital dimensions, both individually and in combination, move households in SEE regions towards greater probability of being in a better position during a period of crisis (i.e. more thriving and fewer surviving activities).

Although our main interest was to develop a model that takes into account households relying on both thriving and surviving activities, we also developed combinations of models for households using these activities singly (either thriving or surviving), but not in combination (Table A2 in the appendix). The results revealed that surviving activities were affected by the same list of determinants discussed earlier, with the following findings: lower income, worse economic situation, lower GDP, fewer informal contacts at institutions, fewer social interactions, smaller households size and fewer additional productive activities are all linked to more surviving activities of households during a period of crisis. Additionally, households in rural locations used surviving activities more. The highest marginal effect was obtained for household income (11%) and additional productive activity (9%). The same conclusion applies for thriving activities with the reverse sign, which is as expected. To sum up, economic performance of households, social capital and household characteristics remain to be important influences for households that rely on thriving or surviving activities only.

As part of our robustness procedure, we estimated a parsimonious model by excluding all variables that are not statistically significant at the conventional 10% level (i.e. excluding *gdppc* and *instrust*). After this change in specification, we did not identify significant differences in magnitudes, signs and statistical significance of the estimated coefficients. Hence, our results are robust to this change in specification. In addition, one may ask why we excluded certain determinants from the thriving equation and link them to the surviving equation only. We also estimated a model in which all determinants were used in both the equations, but the main results still hold while the variables that were included in the thriving equation did not reach a level of statistical significance at the 5% level. We believe that this is due to the specification that does not fit the data well, and thus we interpret the baseline model as more credible. We arrived at the same conclusion when we estimated a model that includes individuals' characteristics, reported in Table 6. Finally, we controlled for the 'do

not know' responses, but the main results were unchanged in terms of sign and significance, and even magnitude remains very similar.

Following good practice, in the end we may report some concerns regarding our investigation. Firstly, we controlled for different household activities during a period of crisis and distinguished between them based on a theoretical discussion of thriving and surviving household activities. This theoretical distinction may still be challenged and more theoretical underpinnings in the future would be useful. In addition, we combine our specification variables with different levels and different time periods (e.g. pre-crisis influence and postcrisis performance), which would merit more investigation using a dynamic context. In the current model, we cannot control for this. Finally, although we identified non-observed endogenous systematic influences in the model, for policy-making this is ineffectual as results are difficult to interpret.

Conclusion

In this paper we investigated what determines the different household activities used during a period of crisis. In our research we combine different influences, including a macroeconomic environment proxied by the level of GDP per capita, social capital and household determinants as economic performance of households, as well as types of household and additional productive activities. In our sensitivity analysis we included standard individual characteristics of respondents, but the results remained consistent.

The main findings imply that the most important factor affecting whether households were engaged more in thriving and/or less to surviving activities is their economic performance in terms of household income level and changes in their economic situation over the period of crisis. This is not surprising and it emphasises the importance of the existing economic performance of households for challenges linked to economic crisis. However, we also identified that macroeconomic performance was less relevant in this case, suggesting that a different macroeconomic environment was not a decisive factor of a household's involvement in thriving or surviving activities, even when the effect is positive but close to zero.

We identified the importance of different social interactions in the model, which we also denoted as different dimensions of social capital. We find that these social capital dimensions—generalised trust, institutional trust and informal contact networks available at different institutions; both individually and in combination—move households in the surveyed SEE region towards greater probability of being in a better position during a period of crisis (i.e. more thriving and less surviving activities). This finding adds to the social capital

literature by identifying the importance of different dimensions and levels of social capital for household activities used during a period of crisis.

The modelling framework that we used enables us to identify that thriving and surviving activities of households during a period of crisis are mutually endogenous activities and are joint outcomes of a wider system of influences, which include some commonly observed and non-observed determinants. Households that were in the 'surviving' situation are identified to be affected by more factors and were in a more challenging position that included more activities, in particular, additional productive activities. Simply put, households being engaged in surviving activities were struggling more in terms of finding more possibilities for maintaining or improving their position.

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Appendix

Table A1. Codes, explanations, and descriptive statistics of variables used in the model.

Variables (V) and Questions (Q) used to construct the variables of interest	Variables	Country	No. of observations	Do not knows %	Mean
V: Thriving activities: 1=yes; 0=no Q: In the last 5 years has your household (YES/NO): Invested in business; 2. Bought real estate; 3. Bought a car; 4. Saved money; 5. Decreased debt.	thriving*	All	3,730	4.5	0.373
		BiH	918	8.4	0.261
		Croatia	972	2.8	0.389
		Serbia	957	4.3	0.313
		Slovenia	883	2.3	0.536
V: The level of household income: 1=high; 0=low Q: What would be the total monthly income of all household members? 15 point scale: 1. up to 100 EUR; 2. 101-200 EUR; 3. 201-300 EUR; etc. Based on the distribution of responses the cut of point was: 0-income up to 500 EUR, 1-income over 500 EUR.	incomehi	All	3,906	0.0	0.385
		BiH	1,002	0.0	0.401
		Croatia	1,000	0.0	0.467
		Serbia	1,000	0.0	0.243
		Slovenia	904	0.0	0.655
V: Change in economic situation of households over the last five years: 1=economic situation is worse; 0=it is better Q: How do you rate your economic situation 5 years ago (a) and today (b)? (Change is calculated as the difference between these responses in a scale 1-10. 1 is coded for negative change, 0 for 0 and positive).	ecworse	All	3,891	0.4	0.605
		BiH	998	0.4	0.508
		Croatia	994	0.6	0.650
		Serbia	999	0.1	0.581
		Slovenia	900	0.4	0.691
The level of GDP per capita in SEE countries divided by 1,000	gdppc	All	3,906	0.0	8.903
		BiH	1,002	0.0	3.642
		Croatia	1,000	0.0	10.162
		Serbia	1,000	0.0	4.635
		Slovenia	904	0.0	18.065
V: The level of generalised trust: 1=trust; 0=no trust Q: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? Binary response (YES/NO).	gentrust	All	3,771	3.5	0.104
		BiH	931	7.0	0.120
		Croatia	982	1.2	0.100
		Serbia	976	2.4	0.076
		Slovenia	882	2.3	0.121

V: The level of institutional trust: 1=more trust; 0=less trust Q: Based in your own experience, what is your trust in state institutions? E.g. courts, police, governments. Scale 1-low trust to 10-maximum.	*instrust*	All	3,834	1.8	0.414
		BiH	959	5.1	3.064
		Croatia	989	1.1	4.024
		Serbia	991	0.9	3.981
		Slovenia	895	1.0	3.990
V: The number of informal links at disposal for support. Q: Should you or someone from your household be unable to take care of any business in the regular way, do you have anyone whom you could ask for help in? – the hospital; – school/ university; – the police; – the courts; – banks & companies; – municipal government; – regional and national governments. Range obtained from 0 to 7 institutions.	*infcont*	All	3,906	0.0	0.318
		BiH	1,002	0.0	0.415
		Croatia	1,000	0.0	0.974
		Serbia	1,000	0.0	0.942
		Slovenia	904	0.0	0.726
V: Surviving activities: 1=yes; 0=no Q: In the last 5 years, from 2010 onwards, has your household been forced to: 1. Terminate some of the household member' education; 2. Being forced to spend some savings; 3. Borrow money; 4. Sell gold, silverware, jewellery; 5. Sell a car; 6. Sell real estate; 7. Sell arable land.	*surviv-ing**	All	3,774	3.4	0.592
		BiH	919	8.0	0.753
		Croatia	988	1.2	0.551
		Serbia	974	2.6	0.495
		Slovenia	893	1.1	0.580
V: Social interaction within house-holds. Q: To what extent, in your opinion, do the following statements corre-spond with the state of affairs in your household? 1. Members ask each other for help; 2. Members like to spend free time with each other; 3. Members consult each other on their decisions; 4. Different persons act as leaders in our household. Scale 1-never to 5-very often. Respons-es aggregated and divided by 4.	*hsocial*	All	3,906	0.0	3.491
		BiH	1,002	0.0	3.389
		Croatia	1,000	0.0	3.236
		Serbia	1,000	0.0	3.590
		Slovenia	904	0.0	3.775
V: The size of households: the total number of households reported Q: Who lives with you in your house-hold?	*hsize*	All	3,906	0.0	2.769
		BiH	1,002	0.0	2.855
		Croatia	1,000	0.0	2.762
		Serbia	1,000	0.0	2.901
		Slovenia	904	0.0	2.533

V: The type of households: 1=rural; 0=urban	rural	All	3,897	0.2	0.473
		BiH	996	0.6	0.458
		Croatia	999	0.1	0.451
		Serbia	1,000	0.0	0.375
		Slovenia	902	0.1	0.623
V: Additional productive activity of households: 1=yes; 0=no activities Q: Tick all the additional activities that your household uses in its economic dealings and rank three activities that most contribute to your household budget? 15 additional activities listed: Construction, plumbing, wiring; agriculture (wage-based); Collecting / recycling waste; Repairing things or vehicles; Childcare; etc.	activb*	All	3,906	0.0	0.116
		BiH	1,002	0.0	0.100
		Croatia	1,000	0.0	0.091
		Serbia	1,000	0.0	0.148
		Slovenia	904	0.0	0.126
V: The age of respondents in years	age	All	3,906	0.0	51.19
		BiH	1,002	0.0	51.54
		Croatia	1,000	0.0	51.21
		Serbia	1,000	0.0	50.57
		Slovenia	904	0.0	51.46
V: The gender of respondents: 1=male; 0=female	spol	All	3,906	0.0	0.435
		BiH	1,002	0.0	0.456
		Croatia	1,000	0.0	0.416
		Serbia	1,000	0.0	0.460
		Slovenia	904	0.0	0.407
V: The highest level of education: 1. Incomplete elementary school; 2. Elementary school; 3. High school – vocational (3 years); 4. High school – vocational (4 years) to 14. Doctorate.	educ	All	3,906	0.0	4.406
		BiH	1,002	0.0	3.797
		Croatia	1,000	0.0	4.380
		Serbia	1,000	0.0	4.495
		Slovenia	904	0.0	5.011
V: The marital status of respondents: 1=married; 0=other	married	All	3,906	0.0	0.500
		BiH	1,002	0.0	0.610
		Croatia	1,000	0.0	0.608
		Serbia	1,000	0.0	0.583
		Slovenia	904	0.0	0.597

Note: *This is a factor variable generated from these responses. These were binary responses (0, 1) which are summarised and divided by number of categories. Then, the binary variable was generated with the value of 0 if the factor is 0, and 1 if the factor is greater than 0 and less than 1; hence, this mean that 1 is coded for all households who have employed at least one of the thriving/ surviving activities.

Table A2. Marginal effects of the SUPM model – thriving or surviving activities.

| | 2-equation model: the 0-1 values for the dependent variables are below | | | |
| | thriving=0, surviving=1 | | thriving=1, surviving=0 | |
Variable	dy/dx	P>|z|	dy/dx	P>|z|
incomehi	-0.11	0.005	0.08	0.000
ecworse	-0.06	0.012	0.03	0.000
gdppc	-0.01	0.054	0.01	0.003
gentrust	0.02	0.542	-0.02	0.543
instrust	0.01	0.867	0.01	0.777
infstela	-0.04	0.000	0.03	0.000
hsocial	-0.01	0.089	0.01	0.083
hsize	-0.02	0.000	0.01	0.000
rural	0.03	0.000	-0.02	0.004
activb	-0.10	0.000	0.06	0.000

Note: dy/dx is for discrete change of dummy variables, from 0 to 1.