

Civil potential and development capacity – empirical results of a Hungarian research

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In this paper we wish to introduce some results concerning the relation between social capital and development chances. First we theoretically introduce and embed shortly the problem based on a multidisciplinary frame (e.g. sociology of regional development, (new) economic sociology), then unfold and explicate some methodological difficulties about the measurement of social capital. After the outlining of the research question, the applied methods and data considerations, we introduce the results of data analysis. Finally we summarize the conclusions and point out that the civil organizations seem to play an important role on development fund absorption and territorial cohesion.

Social capital and territorial development policy

The important role of social capital – or as it is usually referred by literature; *third sector* (Birch & Whittam, 2008) or *civil sector* (Kelemen, 2005) – in the development of societies or communities is highlighted by Putnam's well-known thesis (Putnam, 2006), but for our topic it is even more important that this role is also emphasized in regional development policy. The definition of this special kind of resource shows differences according to distinct authors who underline certain aspects of the concept – for some of the definitions, interpretations and misinterpretations see Sik (2006). However it is common to all of the concepts, definitions and interpretations of social capital that it is more or less connected to civil organization (Orbán & Szántó, 2006:139; Füzér, Gerő, Sik & Zongor, 2006:340, 343) as amongst the mechanisms of social capital can be found – among others – *community development* based on social networks, *competitiveness*, *collective action capacity* and *social cooperation* (Orbán & Szántó, 2006:142). The most important political function of social capital can be considered to expand and to strengthen civil society. The abundant amount of social capital is the criterion of a vibrant civil society, which in turn is essential to the effective operation of a democratic political system (Orbán & Szántó, 2006:144). Putnam (2006:208) exactly states that the communities with adequate set of social capital enjoy the benefits of higher economic growth, lower crime, extensive socialization, improved mental/medical conditions or better school performance (Orban & Szántó, 2006:143)¹.

This brand new type of resource or capital raised also the interest of decision-makers and practitioners: from the 1990's – beside the academic interest – the

¹ However, the sole existence of social capital is not necessarily the guarantee of competitiveness and development as it is also possible that civil society itself becomes the hotbed, glass culture of rent seeking (see Johnson 1999: 236-244): certain actors of civil society over time are transformed into interest groups which may utilize community funds for their private purposes (Orbán & Szántó, 2006:144).

attention of public policy towards these resources became more intense. Social capital might be interesting in the development policy for two reasons: (1) to grasp the impact of the (existing) social capital in the system², and (2) – in the light of methodological individualism – the creation or formation of social capital is usually an unintended by-product due to the tradition, the history of coexistence, shared historical experience, religion and related social factors – and as such, the government has only a limited direct impact on social capital formation (Orbán & Szántó, 2006:150). Accordingly, various development institutions – e.g. World Bank, European Commission, even in Hungary (Füzér, Gerő, Sik & Zongor, 2006:337) – started to build more significantly their activities aimed to foster economic growth and sustainable social development on social capital (Orbán & Szántó, 2006:139; Füzér, Gerő, Sik & Zongor, 2006:336, 343). In the research field of *regional development* one of the main questions are the possibilities of social capital development (Birch & Whittam, 2008)³. At the same time the civil organizations gain more and more significant economic, social and political role in the transformation processes of EU development policy – primarily in the implementation of and decisions connected to local- and regional level territorial development programs (Kovách, 2000:185; Kovách, 2010:26; 184), furthermore the focus on the principles of partnership and cooperation (Horváth, 2003:147-151)⁴.

The significance of this phenomenon in Hungary is demonstrated by the potential possibility – created by the Regional Development Act in 1996 – for local government to create associations (Micro-regional Development Councils) – which actually are a form of voluntary/non-governmental organizations. Furthermore all of those sub-regional level active social organizations can participate in the work of these Micro-regional Development Councils which cover at least half of the regarding population or settlements. In addition since 2004. it is regulated by governmental decree how – in an official form – civil organizations can articulate their opinions and express their interest in the process of local and regional decision-making and strategy-building. The scene of this formal representation is the civil forum, which may delegate members to the concerning development council (Nagy, 2005:15-16; Kovách, Megyesi & Nagy, 2005:78-79). Considering the aforementioned processes it is no question that civil organizations can play an important role in the praxis of territorial development.

² Taking M. Granovetter's concept (2006) as an example from the literature of new economic sociology it is argued that economic performance, the formation and operation of social and economic institutions can be interpreted – instead of social capital – by the notion of embeddedness which refer to the relations and trust among the actors (Granovetter, 2006:35-42). In turn J. Coleman (2006) considers social capital as an aspect of a structure that enables or facilitates the actions of the actors in that certain structure (Coleman, 2006:111). Undoubtedly it could be an interesting research question whether in the field of development policy – taking it as a certain structure – this social capital helps the actors to reach their aims and whether these connections can be converted (Bourdieu, 2006:143-146) directly or indirectly into economic capital.

³ As there seems to work a special kind of interaction: social capital can be accumulated and developed by the third sector, and – in turn – the latter boosts and strengthens – by activating different actors in a network structure – sustainable regional development (Birch & Whittam 2008:438).

⁴ As in the solution of the problems emerging from the rapid globalization of the economic and environmental changes, the increasing process of individualisation, the great changes in the political sphere – the collapse of socialism, the transformation of the European community – new forms of cooperative methods became necessary. In this context of regional development the civil organizations become involved in the integration of human and economic resources of sub-national (local, regional) level and in the fostering of the responsibility-sharing processes among different levels, cooperation and networking – providing a forum for bottom-up, participatory development practice (Kovách, Kučerová & Megyesi, 2005:109-110).

Methodological notes on the measurement of social capital

The measurement of the quantity of social capital and the quantification of the effects of public policy interventions are equally problematic (Birch & Whittam, 2008:445) – both are relevant in this analysis.

Considering the former problem, there can be two different approaches specified (Orbán & Szántó 2006:145): (1.) the one based on the number of groups and group members and (2) the other one based on the social level trust and the extensiveness of civil organizations. The Orbán and Szántó (2006:145-147) develop the following analytical model to measure social capital in the light of the former (1) approach:

$$SC = \sum n_{1...t}$$

Where 'n' indicates the number of members of a certain civil organization and 't' signifies the number of groups concerned. Accordingly, in an actual community the extent of social capital is quantified by the population included in the self-organized groups, NGOs.

However it is possible to refine this indicator and build a more complex measure containing more detailed information⁵:

$$SC = \sum (1/r_n)(r_p c n)_{1...t}$$

In our analysis we employ a basic form of this model – due to the lack of broader statistical data – to measure social capital.

Research question, methodological frame and applied models

In our analysis we wish to shed some light empirically on the *role of social capital*; more precisely the role of *civil organizations* – measured as introduced above – in *development capacity*; or again more accurately in the *capacity to absorb European Union development funds* – in particular in the case of the less developed regions. We have built a complex database from various sources of county level data to be able to investigate the problem in a quantified manner where our dependent variable (Y) is the amount of EU development funds allocated in the county during the 2004-2006 (NDP I.) programming period (source: webpage of National Development Agency, Hungary), the main explaining variable (X_{civil}) is the number of civil organizations in the county (source: webpage of the Central Statistical Office of Hungary; CSOH) and the additional explaining variable (X_{pref}) is the ratio of the underdeveloped (preferred) micro-regions in the county (source: recoded and aggregated on county level from and according to the concerning decree). As we applied in the process of data analysis a specified impact analysis design ('*regression discontinuity design*') to ensure statistical control (see Moksony, 2005)

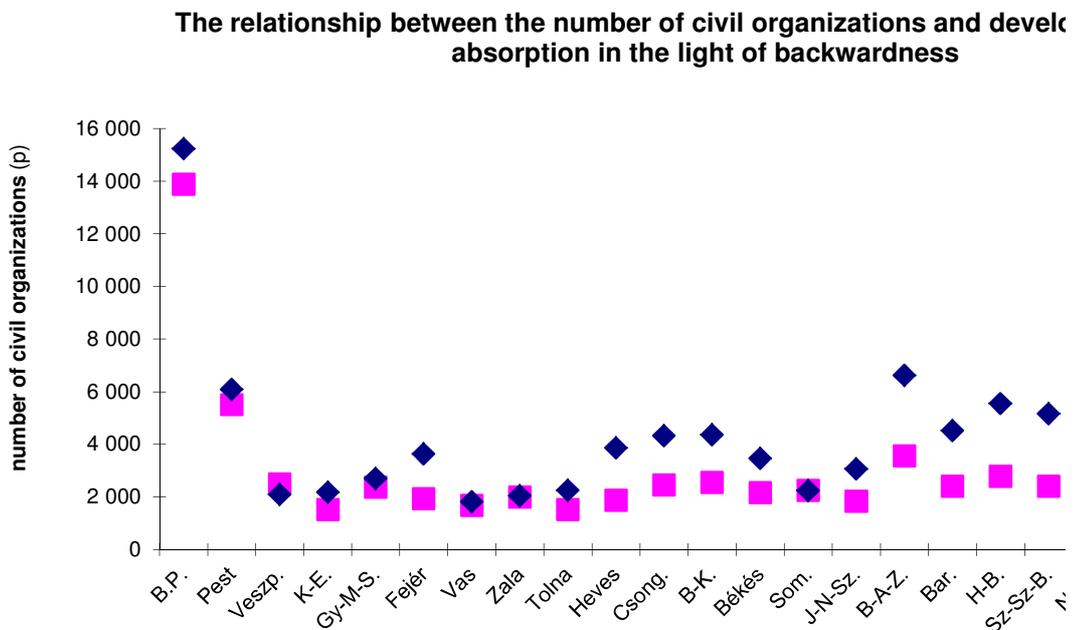
⁵ Where 'r_n' indicate the radius of distrust – which comes into existence in the case of groups or organizations that inflict negative external effects on the whole of the society, i.e. harmful and dangerous –; 'r_p' means the radius of trust – namely when the cooperation norms of the groups spread out of the group as positive externalities –; and 'c' is a coefficient expressing the cohesion of the organization, i.e. the collection action ability of the group members. So in this case the rate of social capital is in inverse relationship with the negative externalities produced by the groups, but it is increased by the capacity of cooperation beyond their organizational borders and by the cohesion of the group members (Orbán & Szántó, 2006:145-147).

we furthermore introduced more relevant statistical data (as control variables; $X_{C1...n}$) on county level (source: downloaded and merged from the webpage of the CSOH) in order to reach higher level of internal validity (Moksony, 1985), i. e. to control the estimation for as many alternative and potentially distorting explaining factors as possible and to measure the net effect of the regulation (Moksony, 2006).

Results of data analysis

There seems to be a connection between the number of civil organizations registered in the county and the total sum of development funds absorbed in the county (figure 1.). It can be ascertained, that in those counties of Hungary, where there is a higher level of civil organizations, the EU-funds absorption is also higher, and accordingly in countries where the civil sector is less extended, the amount of absorbed development funds is also smaller.

1. graph.



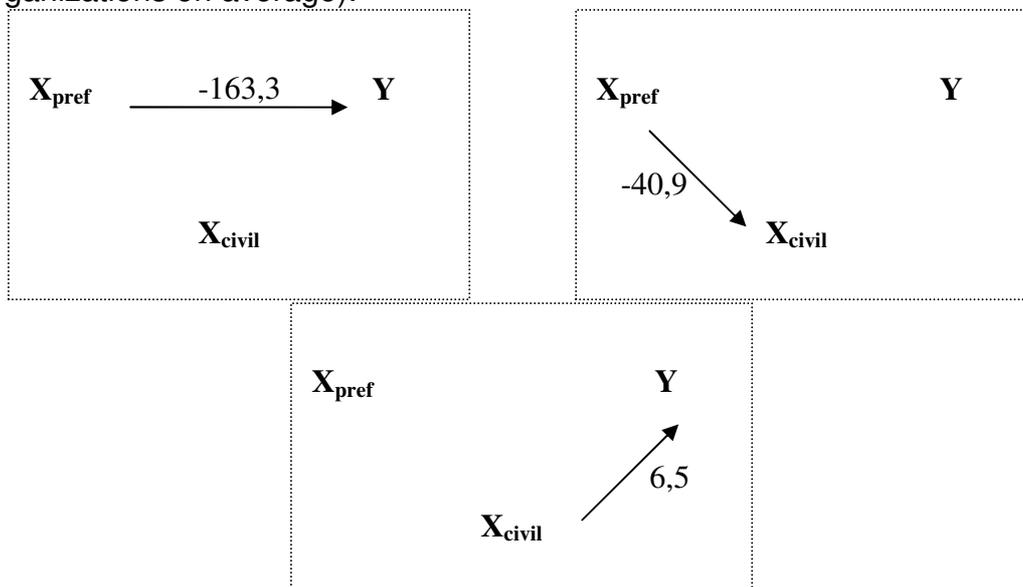
In order to quantify the effects of the explaining factors we applied linear regression procedure. According to the results of the estimation of the first model (table 1: M1) a negative effect of the backwardness level of the counties can be noticed: the higher the rate of preferred (underdeveloped) micro-regions, the smaller the amount of absorbed development fund. In quantitative terms: if the proportion of disadvantaged micro-regions is 1 percent higher, the amount of EU-funds allocated in the county decreases with 163 million HUF (m HUF) on average.

1. table

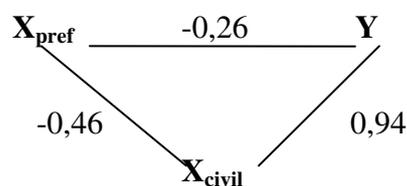
Constant, explaining variables	Model (M...) constant and 'b' coefficients		
	M1	M2	M3
Constant	34433,599	6626,272	-2444,30
X_{pref}	-163,303	-	131,48
X_{civil}	-	6,519	7,19

However in the case of the effect of the civil sector, there seems to be an opposite outcome; a positive impact. The number of civil organizations increases the amount of realized development funds (table 1: M2): if there is 1 more civil organization in a county, that means on average 6,5 mHUF higher EU-funds.

That is the higher rate of preferred micro-regions decreases but the enhancement of civil organizations increases the sum of realized development funds. Nevertheless in the case of underdeveloped counties – i.e. where the proportion of preferred micro-regions is higher – there can be found less civil groups (if the rate of underdeveloped micro-regions is 1 percent higher, there can be counted ~41 less civil organizations on average):

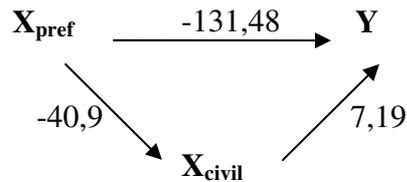


Considering the correlation values between the variables we can also conclude, that the most intense connection can be measured between the number of civil organizations and the EU-development funds acquired.



If the two explaining variables investigated above are utilized at the same time in one single regression model, the relation can be described as below (table 1: M3): on the one hand if the estimation is controlled by the number of civil groups – i.e. in a(n imaginary) situation where in all of the territorial units there were an equal number of organizations –, with the (1 percent) increase of the ratio of preferred

(underdeveloped) micro-regions the amount of development funds allocated is higher 131 mHUF on average. On the other hand, if the ratio of favoured micro-regions is kept constant – i.e. assuming that all of the territorial units were at the same level of development –, the one-unit increase of the number of civil organisations has on average an effect of ~7 mHUF increase in the development funds realized. Furthermore the results of the model including these quasi control-variables (table 1: M3) imply also, that the negative impact between the development level and fund absorption (table 1: M1) is the combination of a positive direct effect and a negative indirect effect⁶:



In short summary, the number of civil organizations increases the development fund absorption capacity, and at equal level of civil sector, the rate of preferred micro-regions has also a positive impact on fund absorption.

However the internal validity of the results above is low as we may provide other factors influencing the territorial allocation of development funds. So in the further analysis we wish to increase the internal validity of the results by including (some) control variables.

Obviously the social-economic features of the territorial units analyzed is not indifferent. In order to measure the statistical differences of the counties we collected data of three variables: population, number of enterprises per capita, urbanization. We may expect the number of inhabitants concerned to increase the allocation of development funds, furthermore if the population is bigger, then the possibilities and the base to form civil organizations is also more remarkable. The higher penetration of enterprises may have a positive effect on development fund absorption, as well as the self-organization of society may be also higher in an area where there is a wider economic community. Last but not least the rate of urbanization – the higher rate of towns among the municipalities – may also increase the level of EU-funds, not to mention that the civil organizations are dominantly concentrated in urban areas (only 25,2% of civil organizations belong to villages). Nevertheless we do not investigate the individual effects of these factors but we use an integrated index computed from the three variables as a single principal component. This control variable (the social-economic position of the area; X_{sepa}) does not modify remarkably the initial relationships: the results of the linear regression model including it shows (table 2: M4) that there is only a slight, negligible difference compared to the previous model (repeated also in table 2: M3). However it can also be concluded, that the higher the value of this index is (i.e. in the case of areas with bigger population, relatively more enterprises and towns), the higher the development fund absorption proves to be⁷.

It is a rather plain indicator of civil sector to measure it by the number of civil organizations as the latter may vary according to their size, type, sector. In order to

⁶ I would like to thank Ferenc Moksony's clarifying comments regarding the results of this estimation.

⁷ As the values of this index are standardized – with a mean of 0 and a standard deviation of 1 –, due to the lack of measurement unit the 'b' would be different to interpret numerically.

decrease the one-sidedness of this variable, in the next step we include in the estimation the relative number of public and special public civil organizations as on the one hand these are expected to represent and realize – beside their own interests – the public interest of a wider community and on the other hand may act more successfully in development projects absorption. The effect of the number of civil organizations is not modified essentially after including this control variable (table 2: M5), while the impact of the rate of preferred micro-regions decreases from 131 to 115 mHUF. And it is also important to realize that a 1% increase of the rate of public/special public civil organizations inflict 181 mHUF higher amount of development funds on average.

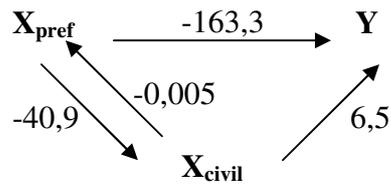
The activity and impact of the non-profit sector can be refined also by taking into consideration its independent capacity to win EU-grants so we include in the next estimation the variable of total number of non-profit development projects (X_{nppr}) realized in the territorial unit. According to the results there proves to be a notable (table 2: M6) change: the impact of the rate of preferred micro-regions decreases largely (from 131,5 to 79,1 mHUF). Namely if in all of the counties the civil organizations had the same number of projects, the effect of the share of favoured micro-regions would be only 79 mHUF on average. The impact of the number of civil organizations also decreases – one more organization brings only 5,6 mHUF rise on average.

2. table

Constant, explaining variables	Modell (M...); constant and 'b' coefficients				
	M3	M4	M5	M6	M7
Constant	-2444,30	-1672,83	-9987,26	-3911,49	-14875,29
X_{pref}	131,48	134,95	115,30	79,10	48,34
X_{civil}	7,19	6,87	6,96	5,56	6,25
X_{sepa}	-	964,83	-	-	-2947,17
X_{public}	-	-	180,93	-	205,22
X_{nppr}	-	-	-	110,28	114,15

Finally in the last of these models (table 2: M7) we included all the control variables investigated above – representing an estimation where all of the territorial units have equal socio-economic conditions, public organizations rate and non-profit projects distribution. This model may have a higher level of internal validity – at least in these variables' respect. The results may confirm our expectation – especially in the case of the rate of preferred micro-regions as compared to the initial model the effect in the control variable model is much lower. Supposing the constant value of the other factors, the net effect of a 1% growth of the share of preferred micro-regions causes only 48 mHUF increase in the development funds absorption on average. The impact of the number of civil organizations decreases likewise – from 7,2 to 6,3 mHUF on average.

After revealing the net impacts of the variables we wish to shortly refer to the combined effect of the factors as this – interaction – effect may prove to be fruitful in interpreting the relationships. First we take the initial relationship and add the two-way regression coefficients.



It can be concluded that the more underdeveloped the areas are, the less civil organizations ($b = -41$) we find, furthermore if the number of civil organizations is higher (with 1), the rate of underdeveloped – preferred – micro-regions is smaller ($b = -0,005$ on average). Based on these relations we may suppose that the effect of one of these variables on EU-funds absorption is not independent from the actual value of the other variable, so we have to pay attention at an interaction effect (Moksony, 2006:80-91).

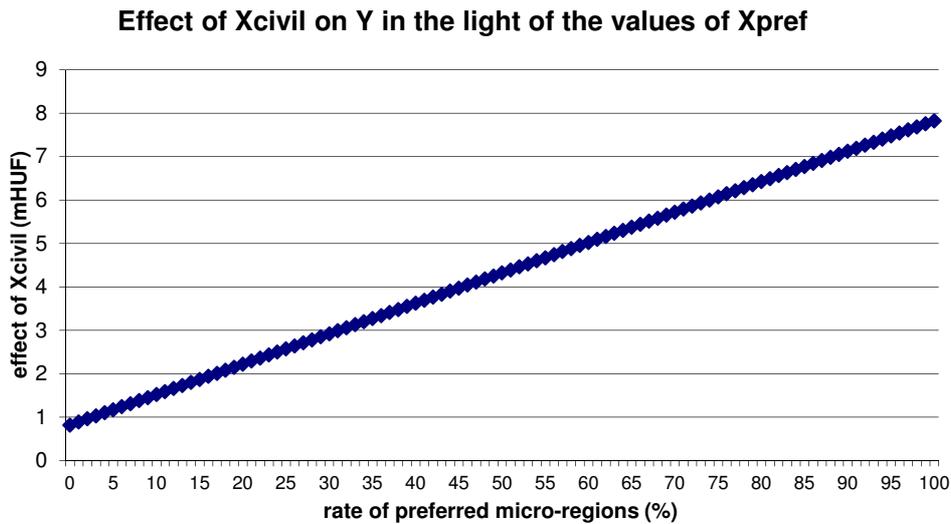
So as to quantify the value of interaction effect we create the interaction variable (X_{INTER}) as the multiplication of the two variables ($X_{INTER} = X_{pref} \times X_{civil}$) and include it in the regression estimation. According to the results the interaction effect is 0,088 (table 3: M8); or more precisely – taking into consideration the impacts of control variables (table 3: M8) – 0,07.

3. table

Constant, explaining variables	Modell (M...); constant and 'b' coefficients	
	M8	M9
Constant (b_0)	-287,575	2867,842
X_{pref} (b_1)	-83,825	-71,519
X_{civil} (b_2)	6,814	0,819
X_{INTER} (b_3)	0,088	0,070
X_{sepa} (b_4)	-	3282,278
X_{public} (b_5)	-	7,025
X_{nppr} (b_6)	-	61,378

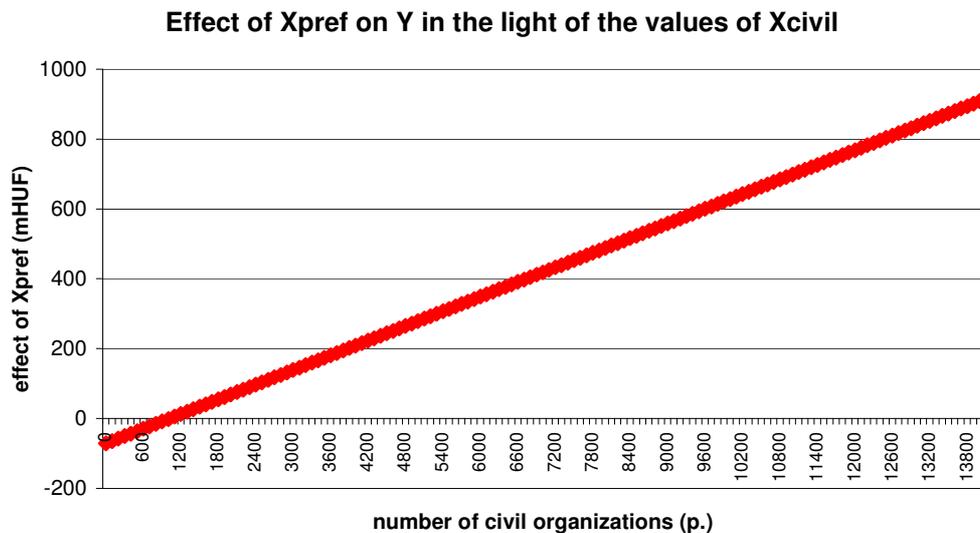
This means that on the one hand – as the interaction effect is symmetrical (Moksony, 2006:85) – the effect of the share of preferred micro-regions on the development fund absorption is increased with 0,07 by the value of number of civil organizations (Moksony, 2006:84). At the same time the effect of the number of civil organizations on the development fund absorption is increased with 0,07 by the value of the rate of preferred micro-regions.

2. graph.



These relations imply that (1) the higher the underdevelopment of a county is, the higher the impact of the civil organizations proves to be on EU-fund absorption (figure 2).

3. graph.



And (2) there needs to be a certain minimum number of civil organizations (exactly 1035,99 p.)⁸ for the preferred micro-regions to have positive impact on development fund absorption (figure 3).

⁸ We can determine this minimum value by the following calculation:

$$\hat{Y} = b_0 + b_2 \times X_{\text{civil}} + (b_1 + b_3 \times X_{\text{civil}}) X_{\text{pref}}$$

$$X_{\text{pref}} = b_1 + b_3 \times X_{\text{civil}}$$

Take the effect of X_{pref} minimum 1! Namely:

$$1 = b_1 + b_3 \times X_{\text{civil}}$$

Conclusions

In this paper we investigated empirically on county level the connection of social capital with development capacity (Putnam, 2006:208) and regional development (Birch & Whittam, 2008:438). According to the results of data analysis (1) the number of civil organizations play a positive role on EU development funds absorption, even when (2) controlled for several relevant other explaining factors. Further relations imply, that (3) the (a minimum) number of civil organizations is a kind of criterion for the underdeveloped areas to have advantageous position in EU-funds allocation, and (4) the civil potential or social capital also proves to be a kind of instrument, means of territorial cohesion, i.e. in the case of more underdeveloped areas the development potential of the civil organizations is higher.

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Then:

$$\frac{1-b_1}{b_3} = X_{\text{civil}}$$

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