MULTI-LEVEL GOVERNANCE IN REGIONAL POLITICS – WHAT CAN NEW EU COUNTRIES LEARN FROM THE OLD ONES ON THE FIELD OF NETWORK-BUILDING – I,II

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Network building is a never-falling adaptation strategy among institutions. Since the financial resources from the EU can be used in fewer amounts, a right functioning institutional structure can be the precondition of the European regions' development. Considering this it is an exciting task to investigate the network-building processes of the regional development organisations. This study considers two regions from this point of view: Danish and a Hungarian one.

Introduction

Network building is a well known adaptation process among institutions and in the quickly changing globalised word it can be important for development organisations to think in networks (Halkier – Sagan 2005), mainly because within the EU financial resources are less and less amount and can be available under stricter conditions (EC 2004). So building up institutional networks can be a precondition for using enough financial resources from the EU budget for development reasons.

In the case studies below the Danish case of development institutional network is analysed first. Sometimes the Danish politicians said that there were too many organisations involved in the development policy area (see Gjerding 2005a and Halkier – Damborg 2000). The organisations work in such an amount that they disturbed each other. Sometimes they worked against each other or there were organisation working exactly on the same domain and territory. And this large number could cause confusion among the actors of the private sector. So the question is arising: are there too many organisations on this field? In Hungary a study showed that sometimes the effect of an additional member to a network can be negative (Pálné 2006). So what really important is the clear competencies of these members in the network.

The paper is about regional development institutions and how they build up there networks among each other. One of the case study regions is Norjylland (or North Jutland) from the northern part of Denmark; the other is the North Great Plain Region or Észak-alföldi Region from Hungary.

The method

The research introduced below had some earlier preliminaries. It was preceded by an EU project (ADAPT 2003), carried out in the framework of ADAPT 5, a thematic partial research entitled "Governance, citizenship and enlargement", which was also conducted in several countries of the EU in 2002 (Getimis 2003). Hungarian researchers[1] in the study serving as the basis for the current one (referred to as ADAPT in the future) chose the South Transdanubian Region to examine the development of multilevel governance in regional politics (Pálné et al 2004). In the current research, we also applied the evaluation system tried in the research for the South Transdanubian region, to ensure further comparability, and also because the research 'itinerary' and questionnaire greatly contributed to and sped up work aimed at scanning the system of multilevel governance in the North region of the Great Plain.

The research method was comparative analysis of public policies. Some quantitative and qualitative analysis of socioeconomic data was made. The author conducted some structured interviews in both regions, 30 in Norjylland Region in April 2006, and 37 in the North Great Plain Region between August 2005 and January 2006. The next step in the research was a social network analysis to which we used the Ucinet for windows program to analyse the data (Borgatti et al 2002).

The two case study regions are Norjylland from the northern part of Denmark, and the North Great Plain Region or Észak-alföldi Region from Hungary. The reason for choosing these two regions was that in both cases, there were some changes in the regional structure, in the composition of the territorial system, or in the political or self-government system of the country. This happened in Denmark and in Hungary as well.

In the case of Denmark in October 2002, the current liberal government formed a commission that was to analyse and suggest, by the end of 2003, changes in the division of tasks between the state, regional, and municipal levels of government. The basic idea was that the existing division of labour across the three-tier system of government had become obsolete in terms of cost effectiveness and the degree of professionalism in public administration. Subsequently, larger units of sub national government were needed (Gjerding 2005b). The legislative work was postponed until spring 2005 because of the national elections, but at the same time, the government asked the municipalities to begin negotiations with neighbouring municipalities on the issue of merger. Gradually, more and more municipalities engaged in negotiations, realising that this was an opportunity

[1] Tamás Fleisher, Krisztina Vida, Marianna Szaitz and Péter Futó on behalf of the Research Institute of World Economy, and Ilona Kovács Pál and Gyula Horváth from the Centre for Regional Research.

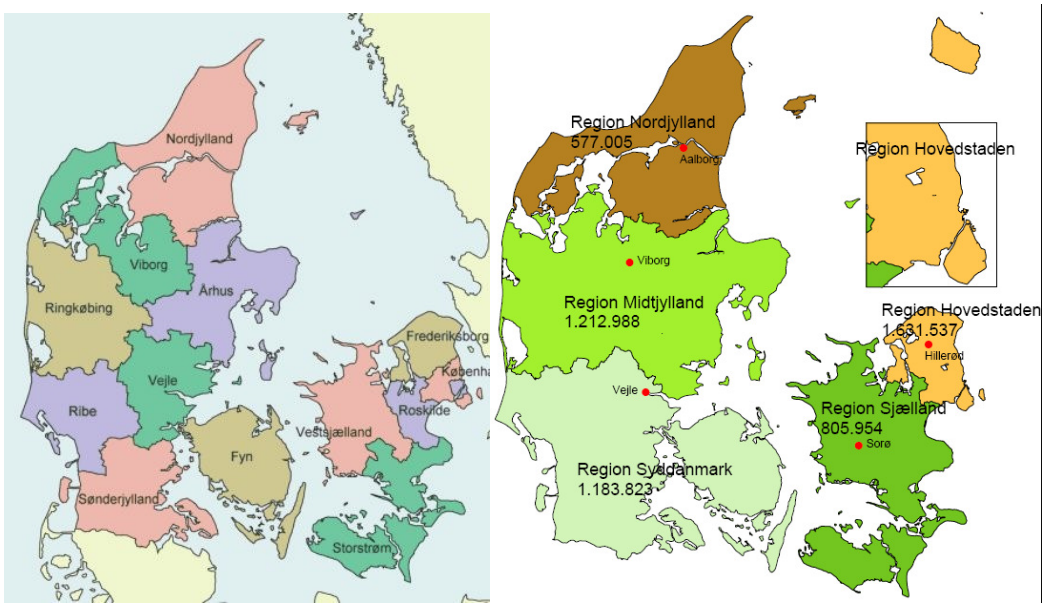
to influence the process of merger. The new three-tier structure comprising 5 regions and 100 municipalities stepped in force from January 1st 2007. In this situation it was really difficult for development organisations to find there way around.

In Hungary there is a chance for regional reforms almost in every political period; various governments have announced several times the reform of the territorial administration, the strengthening of the medium level, the decrease of the number of administrative units and decentralisation, but without much success. Till this time none of the leading political parties were able to put this wish trough[2]. That is why all time periods before national elections usually cases big confusions and fear among the territorially working development bodies. This was the case in the period when our interviews were made.

Introducing the Nordjylland Region

Map 1 shows the Danish regional compositions before and after the regional reform. County of Nordjylland was the 3rd largest county before the reform with its population of 493,816 inhabitants. Even though the reform is already come into force, the present paper introduces the previous situation, because the aim was to show how these networks help to coordinate development bodies in an instable period.

Map 1: Location of the region of Nordjylland in Denmark



Source: http://www.nja.dk

In May 2003, the current liberal government announced that the focus of regional policy was about to change (Gjerding 2005a). The basic argument was as follows. By international standards, disparities of income and employment between Danish regions have been extremely small for at least a decade, with the exception however of a limited number of mainly rural and fishing areas that consistently lag behind. Thus, the time now seems right to replace the overall focus on regional balance with an increasing focus on areas characterised by having very few opportunities for industrial growth, low incomes and high unemployment rates, and in some cases even a decreasing population. In consequence, a number of peripheral areas have been identified and selected for targeted regional policy schemes.

Simultaneously, the system of public industrial service is to undergo a significant change. In Denmark, entrepreneurs and small and medium sized companies are able to enjoy short-term consultancy for free, provided by public agencies that normally operate within a county and are co financed by the state and national authorities, or within a municipality, and financed by the municipality itself. The aim of these public agencies is to deliver services that it is not profitable for the private consultancy sector to provide. However, the government has argued that the degree of professionalism in some of the small public industrial service agencies is too low and that private services are substituted by free public services in some cases, even when the private service might be of a higher quality (Regeringen, 2003). In consequence, the government has initiated a reform whereby the public agencies, by 2004, will focus on very short-term services leaving most of the consultancy work to be supplied by the free market, the providers within which will then become fewer and larger through fusions and mergers across the sector in order to create higher levels of critical mass. (Gjerding 2003)

[2] But the commitment can be envisaged clearly from the fact that in the 2nd National development plan of Hungary there is an operational programme for the state reform as well.

Nordjylland, the northernmost part of mainland Jutland has also been a long-standing beneficiary of national and European regional policy on account of a combination of a low level of industrialisation in some parts of the region and the predominance of declining industries (shipyards) in the major cities (Aalborg, Frederikshavn). Actors within the region have maintained a significant level of involvement in development activities dating back to the 1980s, including activities with regard to European programmes, and, helped by the presence of a university with a strong engineering faculty, new industries have gradually begun to emerge on a large scale, especially around telecommunications and IT. This has to some extent fuelled tensions within the region between the now relatively successful Aalborg area and more peripheral localities. (Halkier – Flockhart 2002)

In the examined period all the development organisations could feel their instable situation. And they tried to build there network or at least strengthened it. It was interesting from an other point: In Denmark North Jutland was the only one eligible for Structural Fund money. It was eligible for Objective 2 and 5b money before 2000, and for Objective 2 between 2000 and 2006. And between 2007 and 2013 less money is obtainable from the competitiveness objective, and from the JEREMIE program Denmark still can use some money, but that one is repayable![3]

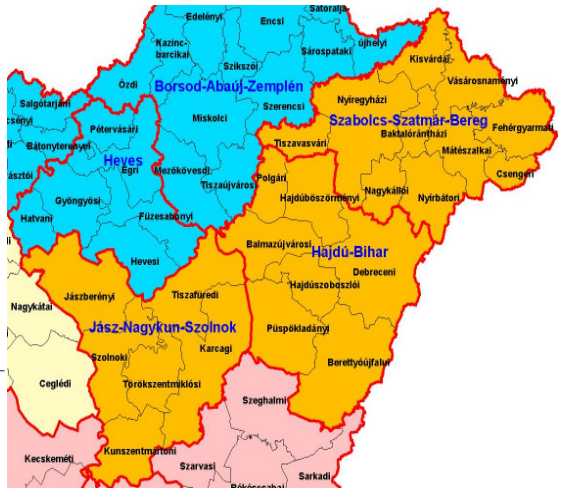
Introducing the Észak-alföldi Region

The Hungarian case study region is North Great Plain Region or as they call it in Hungarian: Észak-alföldi Region. It is situated in the North-Eastern part of Hungary. It is the second largest region in Hungary. It is a region full with controversies, because it consists of three special counties. It can be seen from the Map 2. The western part of the region, Jász-Nagykun-Szolnok county is really close to the capital, Budapest, so it has quite different characteristics and economic situation (economic relations, trade connections) than the other 2 counties in the region. The eastern part of the region, Szabolcs-Szatmár-Bereg County is situated on the Ukrainian and Romanian border which gives another aspect of the development situation of this part of the region.

The region presents a challenge and several difficulties as well as serious opportunities for experts in the field of area development. The problems are rooted not only in the extremes characteristic of region, as it was discussed earlier, but also in its expressed internal heterogeneity. This large region with similar but sometimes completely different units, natural and geo-economics areas as well as different historic, specific, production and cultural traditions is characterised with serious internal contradictions[4].

Map 2: Location of the region of North Great Plain in Europe and Hungary

Source: www.eszakalfold.hu



Source: www.oth.gov.hu

Based on the above, it is perhaps not an exaggeration to claim that despite the basically common goals (making the region catch up with the other ones, rendering it competitive, etc.) in this colourful region with sharp territorial differences, cooperation among the experts in the field of regional development is by far not free of problems. Although the support system run by the EU urges the participants of regional development in the regions in question to really cooperate, at the same time it also makes them compete with one another. In the study conducted by us we aimed at finding an answer to the question if it was cooperation or lack of unity that dominated the relations of organisations and institutions in the North Great Plain Region.

And there were a special timing of the interviews as it was already mentioned earlier. Interviews were made before the local government elections, when all the organisations (even ministry offices) were in an instable atmosphere. And we could see that this influenced mostly our interviewees.

[3] See http://ec.europa.eu/regional_policy/funds/2007/jjj/index_en.htm for details.
[4] About missing regional identity, cf. Baranyi – Balcsók – Dancs 2002.

Structure of the interviews

Our questionnaire consists of six main units. The first block consists of questions concerning general information about the company such as main activity, legal status, ties with EU development. The second group of questions asks about regional problems, the third one enquires about regional relations and interrelations, with whom are they connected, where do they got their information etc. The fourth and fifth ones are devoted to cooperation at national and international level, respectively. The last set of questions asks information about the presence of social capital in the region. This was a little different from all the parts before, here we were interested in how actors perceive values and norms. By social capital we meant the existence of trust, norms and networks that facilitate common action and co-operation among people in the given region.

We had to recline upon some predecessors in the Danish case; the author got a lot of help from her supervisor, Henrik Halkier, while she was a guest scholar at Aalborg University. Henrik Halkier was a big help in mapping the development organisations in Nordjylland (See Table 1). It can be interesting to see the situation later on to have a dynamic picture, to see the changes among these organisations. Halkier and Damborg made a study (2000) about these institutions in the beginning of 2000 to collect a lot of information. And now we have the picture from 2006. It can be interesting to ask these organisations again after the reform when the picture is already settled.

Table 1. Main regional actors in economic development in Nordjylland

Spatial tier	*Political sponsorship*	*Implementing bodies*
Regional	North Jutland County Council Structural Funds Partnerships North Jutland Development Fund	Regional Policy Dept., North Jutland County North Jutland Business Service Technological Information Centres Business and Innovation Centre North
Sub-regional	Councils for sub-regional networks	Secretariat for sub-regional network Local business development offices
Local	Local Authorities Local Business Development Councils	Local Business Development Offices

Source: Halkier – Damborg 2000: 97

The main tiers Halkier and Damborg (2000) investigated were the regional, sub-regional and local level. In 2006 we added the national level as well (see Table 2). Halkier and Damborg made a second grouping: they checked institutions that implement the development policy and checked those deciding about policy and programmes. Institutions we made interviews with in 2006 can be seen in the Table 2. Our stakeholders were from the national, regional and sub-regional level. The last group was the local level, the local municipalities.

Sub-national actors are worth a closer look. During the 1990s a new type of actor has emerged on the scene, namely sub-regional networks by pooling resources, increase their ability to engage in larger projects, and enhance their influence within the region. By far the largest is the Aalborg Region network, based on the regional capital and administered by Aalborg Commercial Council. This network comprises more than 60% of the region's population and has attempted to engage in far more specialised activities, including attempts to draw down funds for major projects from the regional level. The other strong network is the Vendsyssel Development Council which consists of five north-western districts representing c 18 per cent of the total population of North Jutland. Contrary to the Aalborg Region, this network has its own small secretariat. At the north-eastern and southern peripheries of North Jutland the enthusiasm for sub-regional development networks is much more guarded, but a third network developed in the beginning of 2000, namely Himmerland regional network. These three networks have totally different characteristics.

The participants in Hungary are even more. Again, on national level, there were not only six as the operational programmes have not only the one which keeps contacts with the applicants and the regions (the so called intermediate body) and the other which organises (organiser body). And we had again regional actors and local actors. Stakeholders in the various sectors are as follows: Over one third of the institutions investigated belong to central, regional, county, district or local self-governing or administrative organisations. They are involved in providing administrative and public services; they take part in shaping, coordinating and executing governmental policies. More than another third of the interviewed are publicly financed organisations, public corporations, public institutions, and non-profit and limited companies in the possession of self governing bodies but functioning as sole legal entities. Only a few (5) of the interviewed companies belong to the private sector acting as counselling and project writing companies or being industrial parks. A system of abbreviations was introduced to identify the participants of the survey in North Great Plain Region (see Table 3).

Table 2. Interviewed development organisations in Nordjylland Region

	Name of Stakeholder	Name of Stakeholder in English	Abbrev.
1.	EU-oplysningen Køpenhavn	EU Information Centre Copenhagen	EU-CP
2.	Amtsrådsforeningen	The Association of Danish Regions	ARF
3.	Kommunernes Landsforening	Local Government Denmark (LGDK)	LGDK
4.	Erhvervs- og Boligstyrelsen	National Agency for Enterprise and Construction	EBST
5.	Nordjyllands Amt	North Jutland County Council	NJA
6.	Viborg Amt	Viborg County Council	VA
7.	Arbejdsmarkedsrådet Nordjylland	Regional Labour-market Council	AMR
8.	Nordjyllands Udviklingsfond	North Jutland Development Fund	NUF
9.	ErhvervsCenter Nordjylland	Business Development Centre North Denmark	ECNord
10.	NordDanmarks EU-kontor	North Denmark EU-office	EU-ND
11.	Nordjysk Innovations Forum	North Jutland Innovation Forum	NIF
12.	Midt-Nord Turisme	The tourism development firm	MNTur
13.	Nordjyllands Videnpark	NOVI Science Park	NOVI
14.	Nordisk Transport Udvikling	NTU Nordic Transport Development	NTU
15.	Aalborg Universitet	Aalborg University	AAU
16.	Vendsyssels Udviklingsråd	The Industrial Development Council of Vendsyssels	VUR
17.	Himmerlands Udviklingsråd	The Industrial Development Council of Himmerland	HUR
18.	Region Aalborg Samarbejdet	Aalborg Region Network	RAS
19.	Aalborg Erhvervsråd	Aalborg Commercial Council	AaER
20.	Aalborg Industri- og Handelskammer	Chamber of Commerce and Industry	AIH
21.	Aalborg Kommune	Aalborg Municipality	AaK
22.	Fredrikshavn Kommune	Municipality of Fredrikshavn	FrK
23.	Hobro Kommune	Municipality of Hobro	HoK
24.	Hjørring Kommune	Municipality of Hjørring	HjK

Table 3. Interviewed development organisations in North Great Plain Region

1	Hungarian Development Office (Országos Fejlesztési Hivatal)	MTRFH
2	Prime Minister's Office, State Secretariat of Regional Policy (Nemzeti Fejlesztési Hivatal)	NFH
3	Hungarian Institute of Town and Regional Planning, (Magyar Regionális Fejlesztési és Urbanisztikai Kht.)	VÁTI
4	Ministry of Employment and Labour, Division of OP on Human Resorce (Foglalkoztatási és Munkaügyi Minisztérium – HEFOP és EKK IH főig.)	HEFOP
5	Ministry of Economics and Transport, Division of OP on Economics and Competitiveness (Gazdasági és Közlekedési Min. – GVOP főo.)	GVOP
6	Ministry of Economics and Transport, Division of OP on Environment and Infrastructure (Gazdasági és Közlekedési Minisztérium – KIOP főo.)	KIOP
7	Ministry of Agriculture and Regional Development, Division of Community Payment	AVOP

	(Földműv. és Vidékfejl. Min., Közösségi Kifizetések Szabályozási és Felügyeleti Főo.)	
8	Assembly of JNSz County (JNSZ Megyei Közgyűlés)	JNSZ-KGY
9	Assembly of HB County (HB Megyei Közgyűlés)	HB-KGY
10	Assembly of SzSzB County (SZSZB Megyei Közgyűlés)	Szszb-kgy
11	Regional Development Council (Észak-alföldi Regionális Fejlesztési Tanács)	RFT
12	JNSz County Development Council (JNSZ Megyei Területfejlesztési Tanács)	JNSZTFT
13	JNSz County Development Agency (JNSZ Megyei Területfejlesztési Ügynökség)	JNSZ MFÜ
14	HB County Development Council (HB Megyei Területfejlesztési Tanács)	HBTFT
15	HB County Development Agency (HB Megyei Területfejlesztési Ügynökség)	HB MFÜ
16	SzSzB County Development Council (SZSZB Megyei Területfejlesztési Tanács)	SZSZBTFT
17	SzSzB County Development Agency (SZSZB Megyei Területfejlesztési Ügyn.)	SZSZBMFÜ
18	Chamber of Commerce and Industry of JNSz (JNSZ Ker. és Iparkamara)	JNSZK-KIK
19	Chamber of Commerce and Industry of HB (HB Kereskedelmi és Iparkamara)	HB-KIK
20	Chamber of Commerce and Industry of SzSzB (SZSZB Ker. és Iparkamara)	SZSZB-KIK
21	University of Debrecen (Debreceni Egyetem)	UNIV
22	Regional Development Agency (Észak-Alföldi Regionális Fejlesztési Ügy. Kht.)	ÜGYN
23	Hungarian Bank for Development (Magyar Fejlesztési Bank)	BANK
24	Centre of Labour Force (Munkaügyi központ)	MUNKA
25	House of the Euro-Regions (Eurorégió Ház)	EU-HÁZ
26	Self–Government of the Town of Szolnok (Szolnok város önkormányzata)	SZOLN
27	Self–Government of the Town of Debrecen (Debrecen város önkormányzata)	DEBR
28	Self–Government of the Town of Nyíregyháza (Nyíregyháza város önkorm.)	NYÍRE
29	Micro-Regional Associations of JNSz (JNSZ Megye kistérségi társulásai)	JNSZ-KIST
30	Micro-Regional Associations of HB (HB Megye kistérségi társulásai)	HB-KIST
31	Micro-Regional Associations of SzSzB (SZSZB Megye kistérségi társulásai)	Szszb-kist
32	Regional Innovation and Industrial Park of Debrecen (Db.i Reg. Innovációs és Ipari Park)	DIPARK
33	Industrial Park of Nyíregyháza (Nyíregyházi Ipari Park)	NYIPARK
34	Regional Institute of the Hun. Academy of Sciences (Regionális Kutatások Kp.	RKK
35	Project writing companies (Pályázatíró, tanácsadó cégek, pl. RVI, Megakom)	PÁLYCÉG

Regional networks

Next, we examined the presence of regional networks and could compare them in assessing the partner-seeking strategies of institutions coping with the same problems. Drawing the networks in the region we focussed our attention to the density and concentration of relations among the participants in the sample and the facts listed below only relate to 26 participants below the regional level.

Social Network Analysis (Borgatti et al 2002) focuses on the embeddedness of participants in the network, therefore the size of institutions, companies and organisations does not appear in the input matrices so it consequently remains irrelevant in computerised data procession whether the company/organisation/institution is a small medium or large one or not.

Here in this paper I present three component of the research, of the social network analysis. First the density of the network than the centrality of it and finally the multi-dimensional map I will present. Two matrices were developed for the description of the interrelationships among the interviewed:

- First, a dichotomised (binary adjacency) matrix **A** was developed. The entries were as follows: connections between stakeholder I (row) and stakeholder J (column) are assessed as existent (1) if at least one of the stakeholders I or J has stated a functioning relationship. If neither I nor J reported any relationship the value was (0).
- Next, a valued adjacency matrix B was developed where the values are rounded up averages of the following evaluations made by I and J:

  ⇒ (0) there is no relation between stakeholder I (row) and stakeholder J (column).

  ⇒ (1) there is weak, informal relation with occasional interactions

  ⇒ (2) there is a relation of medium strength, e.g. formalised ties but no joint projects

  ⇒ (3) there is a strong relation between two stakeholders, e.g. a formalised tie with a joint project and regular interactions.

For example, if according to J, his relation with I is (1) and according to I it is (2), both values for I, J and J, I in matrix **B** and **D** equal 2, i.e. the rounded-up figure for 1.5 in matrix **B** and **D**. It should be noted at this point, that both matrices are symmetrical although the participants evaluated their relationships in different ways. Using the previous abbreviations, matrices **A, B, C** and **D** are as follows:

Table 4: Existence of a relation between participants in the regional policy of the North Great Plain Region

(Binary adjacency matrix A for Social Network Analysis)

	Jnszk-kgy.	Hb-kgy.	Szszb-kgy.	RFT	Jnszk-tan.	Hb-tan.	Szszb-tan.	Jnszk-kik	Hb-kik	Szszb-kik	Univ	Ügyn.	Bank	Munka	EU-ház	Szoln	Debr	Nyíre	Jnszk-kist.	Hb-kist.	Szszb-kist.	DIPark	NyIPark	RKK	Cégek	Total
Jnszk-kgy.		1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	1	0	0
Hb-kgy.	1		1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	9
Szszb-kgy.	1	1		1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	9
RFT	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Jnszk-tan.	1	0	1	1		1	1	1	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	2
Hb-tan.	1	1	1	1	1		1	0	1	0	1	1	1	1	1	0	1	0	0	1	0	1	1	1	1	8
Szszb-tan.	1	1	1	1	1	1		0	0	1	1	1	1	1	0	0	0	1	0	0	1	0	1	1	1	6
Jnszk-kik	1	0	0	1	1	0	0		1	1	1	1	1	1	0	1	0	0	1	0	0	0	0	1	1	3
Hb-kik	1	1	0	1	0	1	0	1		1	1	1	1	1	1	0	1	0	0	1	0	1	0	1	1	6
Szszb-kik	1	0	1	1	0	0	1	1	1		1	1	1	1	0	0	0	1	0	0	1	0	1	1	1	5
Univ	0	1	1	1	0	1	1	1	1	1		1	1	1	1	1	1	1	0	1	1	0	1	1	1	0
Ügyn.	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	4
Bank	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	0	0	2
Munka	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	4
EU-ház	0	1	1	1	0	1	0	0	1	0	1	1	1	1		0	1	0	0	1	0	1	1	1	1	5
Szoln	1	1	1	1	1	0	0	1	0	0	1	1	1	1	0		1	1	1	0	0	0	0	0	1	4
Debr	1	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1		1	0	1	0	1	1	1	1	8
Nyíre	0	1	1	1	0	0	1	0	0	1	1	1	1	1	0	1	1		0	0	1	0	1	1	1	5
Jnszk-kist.	1	0	0	1	1	0	0	1	0	0	0	1	1	1	0	1	0	0		1	1	0	0	1	1	2
Hb-kist.	1	1	0	1	0	1	0	0	1	0	1	1	1	1	1	0	1	0	1		1	0	0	1	1	5
Szszb-kist.	1	0	1	1	0	0	1	0	0	1	1	1	1	1	0	0	0	1	1	1		0	1	1	1	5
DIPark	1	1	0	1	0	1	0	0	1	0	0	1	1	1	1	0	1	0	0	0	0		1	1	0	2
NyIPark	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	0	0	1	1		0	1	7
RKK	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0		1	0
Cégek	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1		1
Total	20	19	19	24	12	18	16	13	16	15	20	24	22	24	15	14	18	15	12	15	15	12	17	20	21	36

Source: Own data based on the questionnaires

Table 5: Strength of a relation between participants in the regional policy of the North Great Plain Region

(Valued adjacency B matrix for Social Network Analysis)

	Jnszk-kgy.	Hb-kgy.	Szszb-kgy.	RFT	Jnszk-tan.	Hb-tan.	Szszb-tan.	Jnszk-kik	Hb-kik	Szszb-kik	Univ	Ügyn.	Bank	Munka	EU-ház	Szoln	Debr	Nyíre	Jnszk-kist.	Hb-kist.	Szszb-kist.	DIPark	NyIPark	RKK	Cégek	Total
Jnszk-kgy.		1	1	2	2	1	1	3	2	2	0	1	1	1	0	2	1	0	2	1	1	1	1	1	0	28
Hb-kgy.	1		2	3	0	3	3	0	3	0	2	2	1	3	3	1	3	1	0	3	0	1	1	2	3	41
Szszb-kgy.	1	2		3	2	2	3	0	0	3	1	2	1	2	1	1	1	3	0	0	2	0	3	1	2	36
RFT	2	3	3		3	3	3	2	2	2	2	3	1	3	1	3	3	3	2	3	2	1	1	1	1	53
Jnszk-tan.	2	0	2	3		3	3	2	0	0	0	3	1	1	0	3	0	0	2	0	0	0	0	0	1	26
Hb-tan.	1	3	2	3	3		2	0	2	0	1	3	1	2	1	0	3	0	0	2	0	1	1	1	2	34
Szszb-tan.	1	3	3	3	3	2		0	0	2	1	3	1	2	0	0	0	3	0	0	3	0	2	2	2	36
Jnszk-kik	3	0	0	2	2	0	0		3	3	1	2	2	2	0	2	0	0	1	0	0	0	0	1	1	25
Hb-kik	2	3	0	2	0	2	0	3		3	2	2	1	2	3	0	2	0	0	2	0	1	0	2	2	34
Szszb-kik	2	0	3	2	0	0	2	3	3		1	2	2	3	0	0	0	2	0	0	2	0	2	1	2	32
Univ	0	2	1	2	0	1	1	1	2	1		2	1	1	2	1	3	2	0	1	1	0	1	1	2	29
Ügyn.	1	2	2	3	3	3	3	2	2	2	2		1	2	2	3	3	3	2	2	2	2	2	3	3	55
Bank	1	1	1	1	1	1	1	2	1	2	1	1		1	1	1	1	1	1	1	1	1	1	0	0	24
Munka	1	3	2	3	1	2	2	2	2	3	1	2	1		2	2	2	2	2	2	2	2	2	2	2	47
EU-ház	0	3	1	1	0	1	0	0	3	0	2	2	1	2		0	3	0	0	1	0	2	1	2	2	27
Szoln	2	1	1	3	3	0	0	2	0	0	1	3	1	2	0		1	1	2	0	0	0	0	0	1	24
Debr	1	3	1	3	0	3	0	0	2	0	3	3	1	2	3	1		1	0	1	0	2	2	2	2	36
Nyíre	0	1	3	3	0	0	3	0	0	2	2	3	1	2	0	1	1		0	0	3	0	3	1	1	30
Jnszk-kist.	2	0	0	2	2	0	0	1	0	0	0	2	1	2	0	2	0	0		1	1	0	0	1	2	19
Hb-kist.	1	3	0	3	0	2	0	0	2	0	1	2	1	2	1	0	1	0	1		1	0	0	1	2	24
Szszb-kist.	1	0	2	2	0	0	3	0	0	2	1	2	1	2	0	0	0	3	1	1		0	2	2	2	27
DIPark	1	1	0	1	0	1	0	0	1	0	0	2	1	2	2	0	2	0	0	0	0		1	1	0	16
NyIPark	1	1	3	1	0	1	2	0	0	2	1	2	1	2	1	0	2	3	0	0	2	1		0	2	28
RKK	1	2	1	1	0	1	2	1	2	1	1	3	0	2	2	0	2	1	1	1	2	1	0		2	30
Cégek	0	3	2	1	1	2	2	1	2	2	2	3	0	2	2	1	2	1	2	2	2	0	2	2		39
Total	28	41	36	53	26	34	36	25	34	32	29	55	24	47	27	24	36	30	19	24	27	16	28	30	39	800

Source: Own data based on the questionnaires

Table 6: Existence of a relation between participants in the regional policy of the Nordjylland Region

(Binary adjacency matrix C for Social Network Analysis)

	EU-CP	ARF	LGDK	EBST	NJA	VA	AMR	ECNord	EU-ND	NOVI	NTU	AAU	VUR	HUR	RAS	AaER	AIH	AaK	FrK	HoK	HjK	Σ
EU-CP		1	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	5
ARF	1		1	1	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	9
LGDK	0	1		1	0	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	14
EBST	0	1	1		1	1	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	8
NJA	0	1	0	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
VA	1	1	1	1	1		1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	13
AMR	0	0	1	0	1	1		1	1	1	0	1	1	1	1	1	1	1	1	1	1	16
ECNord	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	20
EU-ND	1	1	1	0	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	19

NOVI	0	1	0	0	1	1	1	1	1		0	1	0	1	0	0	0	1	0	0	0	9
NTU	1	0	0	0	1	1	0	1	1	0		1	1	0	0	0	1	1	0	0	0	9
AAU	0	1	1	0	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	18
VUR	0	0	1	1	1	1	1	1	1	0	1	1		1	1	1	1	1	1	0	1	16
HUR	0	0	1	1	1	1	1	1	1	1	0	1	1		1	1	0	0	0	0	0	12
RAS	0	0	1	1	1	0	1	1	1	0	0	1	1	1		0	0	1	0	0	0	10
AaER	0	0	0	0	1	0	1	1	1	0	0	1	1	1	0		0	1	0	0	0	8
AIH	0	0	0	0	1	0	1	1	1	0	1	1	1	0	0	0		1	0	0	0	8
AaK	0	0	1	0	1	0	1	1	1	1	1	1	1	0	1	1	1		1	1	1	15
FrK	0	0	1	0	1	0	1	1	1	0	0	1	1	0	0	0	0	1		0	0	8
HoK	0	0	1	0	1	0	1	1	1	0	0	1	0	0	0	0	0	1	0		0	7
HjK	0	0	1	0	1	0	1	1	1	0	0	1	1	0	0	0	0	1	0	0		8
Σ	5	9	14	8	18	13	16	20	19	9	9	18	16	12	10	8	8	15	8	7	8	250

Source: Own data based on the questionnaires

Table 7: Strength of a relation between participants in the regional policy of the Nordjylland Region (Valued adjacency D matrix for Social Network Analysis)

	EU-CP	ARF	LGDK	EBST	NJA	VA	AMR	ECNord	EU-ND	NOVI	NTU	AAU	VUR	HUR	RAS	AaER	AIH	AaK	FrK	HoK	HjK	Σ
EU-CP		2	0	0	0	1	0	1	3	0	1	0	0	0	0	0	0	0	0	0	0	8
ARF	2		2	2	3	3	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	16
LGDK	0	2		3	0	1	2	0	2	0	0	1	1	1	1	0	0	3	3	3	3	26
EBST	0	2	3		3	3	0	2	0	0	0	0	2	2	3	0	0	0	0	0	0	20
NJA	0	3	0	3		3	2	3	3	3	1	3	2	2	2	1	1	3	1	1	1	38
VA	1	3	1	3	3		2	1	3	1	1	2	1	2	0	0	0	0	0	0	0	24
AMR	0	0	2	0	2	2		3	1	1	0	3	1	1	2	1	1	3	3	3	3	32
ECNo	1	1	1	2	3	1	3		3	2	1	3	1	2	2	2	1	2	1	1	1	34
EU-nd	3	1	2	0	3	3	1	3		1	2	2	2	1	3	3	3	3	2	1	1	40
NOVI	0	1	0	0	3	1	1	2	1		0	3	0	1	0	0	0	3	0	0	0	16
NTU	1	0	0	0	1	1	0	1	2	0		3	1	0	0	0	3	1	0	0	0	14
AAU	0	1	1	0	3	2	3	3	2	3	3		2	2	3	3	3	3	1	1	1	40
VUR	0	0	1	2	2	1	1	1	2	0	1	2		2	2	1	1	1	3	0	3	26
HUR	0	0	1	2	2	2	1	2	1	1	0	2	2		2	2	0	0	0	0	0	20
RAS	0	0	1	3	1	0	2	2	3	0	0	3	2	2		0	0	3	0	0	0	22
AaER	0	0	0	0	1	0	1	2	3	0	0	3	1	2	0		0	3	0	0	0	16
AIH	0	0	0	0	1	0	1	1	3	0	3	3	1	0	0	0		3	0	0	0	16
AaK	0	0	3	0	3	0	3	2	3	3	1	3	1	0	3	3	3		2	2	2	37
FrK	0	0	3	0	1	0	3	1	2	0	0	1	3	0	0	0	0	2		0	0	16
HoK	0	0	3	0	1	0	3	1	1	0	0	1	0	0	0	0	0	2	0		0	12
HjK	0	0	3	0	1	0	3	1	1	0	0	1	3	0	0	0	0	2	0	0		15
Σ	8	16	27	20	37	24	32	33	40	16	14	40	26	20	23	16	16	37	16	12	15	488

Source: Own data based on the questionnaires

Density is an important parameter of policy networks. Low network density means basically weak ties among the participants. NJR means Nordjylland and EAR means Észak-alföldi Region.

Existence of relationship

- *Method*: the density of binary networks equals the total number of existing ties divided by the total number of possible ties.
- Result: the density value of the binary network in question is NJR:0.5952, EAR:0.7267, which means that almost 60%, and over 70% of the possible ties exist in at least one direction in the given network.

Strength of relationship

- Method: In the valued network, density equals the total of all values divided by the number of possible relations. In this case, density is of average value.
- Result: the density of the valued network is NJR:1.1619, EAR:1.3367, which can be interpreted as follows: the average strength of existing relations is 1.839, which shows that the majority of the existing ties work at low and medium levels. NJR:1.1619/0.5952= 1.9521; (!)
  EAR:1.3367/ 0.7267= 1.839

Second method is the *centralisation* analysis. We will have a closer look at it.

- A centrality parameter: degree of embeddedness for each actor within the network.
- In the symmetrical network, Freeman's method was applied to measure the degree of centrality.

And here are the numbers, first for the existence of the relationship:

Table 8.

```
Diagonal valid?              NO
Model:                       SYMMETRIC
Input dataset:               "C:\Documents and Settings\Oktató\Asztal\PhD\debrecenben irt anyago
```

		1	2	3
		Degree	NrmDegree	Share
8	ECNord	20.000	100.000	0.080
9	EU-ND	19.000	95.000	0.076
5	NJA	18.000	90.000	0.072
12	AAU	18.000	90.000	0.072
7	AMR	16.000	80.000	0.064
13	VUR	16.000	80.000	0.064
18	AaK	15.000	75.000	0.060
3	LGDK	14.000	70.000	0.056
6	VA	13.000	65.000	0.052
14	HUR	12.000	60.000	0.048
15	RAS	10.000	50.000	0.040
11	NTU	9.000	45.000	0.036
10	NOVI	9.000	45.000	0.036
2	ARF	9.000	45.000	0.036
21	HjK	8.000	40.000	0.032
4	EBST	8.000	40.000	0.032
17	AIH	8.000	40.000	0.032
16	AaER	8.000	40.000	0.032
19	FrK	8.000	40.000	0.032
20	HoK	7.000	35.000	0.028
1	EU-CP	5.000	25.000	0.020

Table 9.

```
Diagonal valid?                NO
Model:                         SYMMETRIC
Input dataset:                 "C:\Documents and Settings\Oktató\Asztal\PhD\debrecenben irt anyago
```

		1	2	3
		Degree	NrmDegree	Share
12	AAU	40.000	66.667	0.082
9	EU-ND	40.000	66.667	0.082
5	NJA	38.000	63.333	0.078
18	AaK	37.000	61.667	0.076
8	ECNord	34.000	56.667	0.069
7	AMR	32.000	53.333	0.065
3	LGDK	27.000	45.000	0.055
13	VUR	26.000	43.333	0.053
6	VA	24.000	40.000	0.049
15	RAS	23.000	38.333	0.047
4	EBST	20.000	33.333	0.041
14	HUR	20.000	33.333	0.041
10	NOVI	16.000	26.667	0.033
16	AaER	16.000	26.667	0.033
17	AIH	16.000	26.667	0.033
2	ARF	16.000	26.667	0.033
19	FrK	16.000	26.667	0.033
21	HjK	15.000	25.000	0.031
11	NTU	14.000	23.333	0.029
20	HoK	12.000	20.000	0.024
1	EU-CP	8.000	13.333	0.016

Table 10.

```
FREEMAN'S DEGREE CENTRALITY MEASURES:
-------------------------------------------------------------------------------

Diagonal valid?                NO
Model:                         SYMMETRIC
Input dataset:                 D:\PhD\cikkek\competitio\2005szept\Palne kutatas\binary adjacency
```

		1	2	3
		Degree	NrmDegree	Share
4	RFT	24.000	100.000	0.055
14	Munka	24.000	100.000	0.055
12	Ügyn.	24.000	100.000	0.055
13	Bank	22.000	91.667	0.050
25	cégek	21.000	87.500	0.048
11	Univ	20.000	83.333	0.046
24	RKK	20.000	83.333	0.046
1	Jnszk-kgy.	20.000	83.333	0.046
2	Hb-kgy.	19.000	79.167	0.044
3	Szszb-kgy.	19.000	79.167	0.044
17	Debr	18.000	75.000	0.041
6	Hb-tan.	18.000	75.000	0.041
23	NyIPark	17.000	70.833	0.039
7	Szszb-tan.	16.000	66.667	0.037
9	Hb-kik	16.000	66.667	0.037
10	Szszb-kik	15.000	62.500	0.034
20	Hb-kist.	15.000	62.500	0.034
15	EU-ház	15.000	62.500	0.034
21	Szszb-kist.	15.000	62.500	0.034
18	Nyíre	15.000	62.500	0.034
16	Szoln	14.000	58.333	0.032
8	Jnszk-kik	13.000	54.167	0.030
22	DIPark	12.000	50.000	0.028
5	Jnszk-tan.	12.000	50.000	0.028
19	Jnszk-kist.	12.000	50.000	0.028

Table 11.

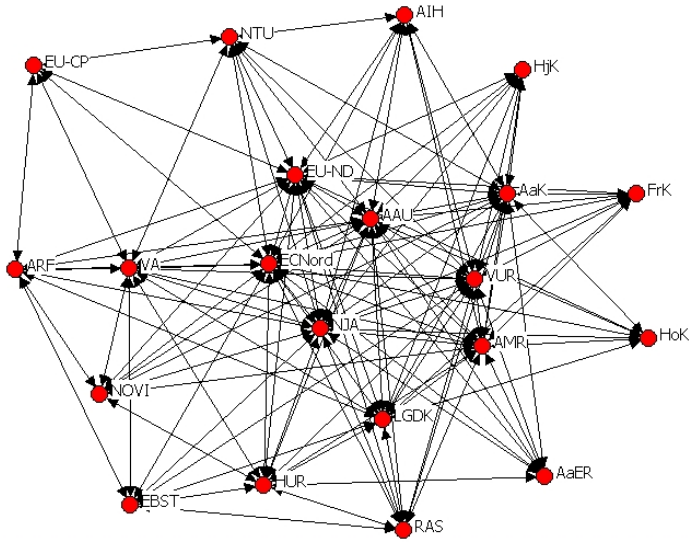
FREEMAN'S DEGREE CENTRALITY MEASURES:

Diagonal valid? NO
Model: SYMMETRIC
Input dataset: D:\PhD\cikkek\competitio\2005szept\Palne kutatas\valued adjacency

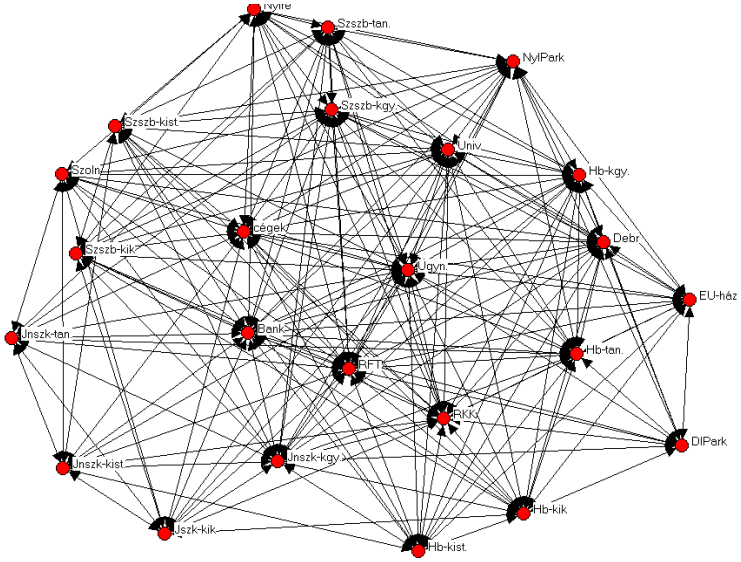
	1 Degree	2 NrmDegree	3 Share
12 Ügyn.	55.000	76.389	0.068
4 RFT	54.000	75.000	0.067
14 Munka	48.000	66.667	0.060
2 Hb-kgy.	41.000	56.944	0.051
25 cégek	39.000	54.167	0.048
3 Szszb-kgy.	36.000	50.000	0.045
7 Szszb-tan.	36.000	50.000	0.045
17 Debr	36.000	50.000	0.045
9 Hb-kik	35.000	48.611	0.043
6 Hb-tan.	34.000	47.222	0.042
10 Szszb-kik	32.000	44.444	0.040
18 Nyíre	30.000	41.667	0.037
24 RKK	30.000	41.667	0.037
11 Univ	29.000	40.278	0.036
1 Jnszk-kgy.	28.000	38.889	0.035
23 NyIPark	28.000	38.889	0.035
21 Szszb-kist.	28.000	38.889	0.035
15 EU-ház	27.000	37.500	0.033
8 Jszk-kik	26.000	36.111	0.032
5 Jnszk-tan.	26.000	36.111	0.032
16 Szoln	25.000	34.722	0.031
13 Bank	24.000	33.333	0.030
20 Hb-kist.	24.000	33.333	0.030
19 Jnszk-kist.	19.000	26.389	0.024
22 DIPark	16.000	22.222	0.020

The third method makes the whole picture much more visible, transparent, the most spectacular. *Multi-dimensional scaling* graph of the institutional networks can be seen below. Multi-dimensional scaling (MDS) is aimed at providing a two-dimensional picture about the network examined by us. The algorithm is developed for finding a location for each actor in the plane , the distance between the individual participants being proportional to the strength of tie between the participants involved. This method can be applied to show the central or peripheral situation of the participants. Result from binary and valued adjacency matrices: both illustrations allow for a clear distinction between central and peripheral participants. Here you can see the case in Nordjylland County:

Figure 1: Diagram of multi-dimensional scaling for valued adjacency matrix



The case of North Great Plain Region



Source: Own edition based on the data in the questionnaire, using UCINET software

Conclusion and main implications

What kind of implications can be drawn from all the research above? The most important facts can be summarised in four points.

First of all the composition of development organisation and actors that were involved in the research were different in the two cases. In Denmark we found more private while in the Hungarian case we asked more from the public sector. It is important to note here that our method of choosing the actors gave a big freedom to the actors to name those bodies which they think the most important actors on the field of regional development and policy. Our strategy was first to ask the regional development agency about who they think the most important are. We went to these actors with our preliminary list of actors and asked each of them to complete the list, to give us some more complementary bodies. So our list became full first after the last interviews in each case.

Our second notice was that in the Hungarian case the influence of party policy is really big on development decisions. In the last section of the questionnaire there were questions about social capital. We had questions like "*What do you think about the democratisation of your region?*" or "*How important is the role of the state in regions' capacity to gain access to more EU funds?*", or "*What is your estimation of the degree to which one can trust the elected politicians?*" High percentage of our interviewees described politics in the given region with the words like "*command and control*", "*political clientelism"* or "*corrupted"*. Danish representatives of the development bodies usually were laughing at this question.

In the Hungarian case the adaptation process induced by the EU integration has resulted in institutional conflicts below the regional level, while it contributed to the development of relations on the national level. In the Danish region examined the results showed that instable surrounding helped to deepen the relations among organizations, or we can say among persons who had the important information, and these people will be the stable fix points in the new regional system which stepped into force in the beginning of this year.

The fourth important conclusion of this study is that even though Nordjylland is not eligible for the Structural Funds under the cohesion objective, and can have development instrument under stricter conditions, the region still can show a really lively institutional activity on the field of business development. It is noticeable that most of these development bodies are afraid of the changes, and they do not know what the future will bring for persons who were handling the EU development money. But from now on it will be the market and not the EU aid which selects the business development organizations to function. It would be important for Hungary to keep in mind that it is nut useful in the long run to build up a "proposal-writing industry" which is based mostly on the European help and lead by the politicians instead of knowing what the region is really good at and help that.

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