

**THESES OF DOCTORAL (PhD)
DISSERTATION**

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2014

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IMPACTS OF NATIONAL DEVELOPMENT PLANS
ON LABOR SUPPLY IN THE SOUTH TRANSDANUBIAN
REGION

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KAPOSVÁR

2014

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1. Antecedents and Goals of the Study

Today's employment situation, even examined in international, European or in domestic relation, there is present as a constant problem to be solved. The research work started in my paper is based on the processing of past domestic data, which could reveal the conformation to the future claims of change, regarding employment developing. In this particular case, I tried to reveal, how the domestic employment managed to answer the EU expectations in the few years after the accession. If we take it as a starting point, that the principal quantified aim of the union's 2020 employment strategy is, that 75% of the working age population (20-64 years) should have a workplace, and opposite this there are currently 23 million unemployed, then it turns out the necessity, of the analysis of past data. (*European Commission, 2014*)

If approached from a statistical angle based on recent 2014 data, the Hungarian labor market appears to have been consolidating since the period I examined. I specifically refer to the 2014 report of the Central Statistical Office (KSH), according to which the employment rate, surpassing the 50 percent benchmark, seems to have entered the path of growth. However, this does not come close to the EU objectives, yet. (KSH, 2014)

The employee activity of the South Transdanubian Region, the focus of my research, is also one of the poorest (55.3 percent), which is significantly subpar to the average employee activity of the European Union (75 percent). The region, as I had learned as a layman even before I conducted my research, had been a problematic area both from economic and social perspectives. For the most apparent of the problems was the commonly recognized high level of unemployment, I chose to examine the supply side of the labor market as the central subject of my research. At the same time, I was also interested in how the influx of European financial resources had impacted employability (and

consequently the eventual level of employment) after the accession of Hungary to the European Union. Furthermore, I also kept in focus the question of how much the quantified level of unemployment had been mirrored in the ability of the geographical areas (counties, subregions, settlements) of the region to attract subsidies.

It would be scientifically imprudent to state that I thoroughly researched the subject from all angles, for first, I am not an expert in all related fields, and second, it would have been an impossible task to synthesize all perspectives in a single study. Therefore, I applied economic abstraction and I modelled the situation of the South Transdanubian Region in terms of labor market, labor supply and subsidy tenders by select dimensions.

The chosen path of research reveals whether the human resource subsidies of the European Union brought forth qualitative improvements in the supply side of the labor market and a subsequent decrease in unemployment. The research is pronouncedly specific to the South Transdanubian Region where unemployment is deemed severe on a national scale, thus I believe it is cumulatively dependent on support available through tenders. In the dissertation, I observe the periods of 2004 – 2006 of the National Development Plan I and 2007 – 2008 of the National Development Plan II for two reasons. The first reason is that it seems to be a significant question whether the programs aiming to improve the quality of human resources made an impact in the initial years, and whether the experiences of the first two and a half years got incorporated in the first two years of the forthcoming planning period. The second reason is that the unemployment statistics regarding the years after the Great Recession that occurred at the second half of 2008 could lead to distorted and potentially wrong conclusions. In my dissertation, I seek answers to the following hypotheses:

- I. In Hungary and more specifically in the South Transdanubian Region, the biggest problem of the economic policy and employment is not restricted to unemployment; it also includes high inactivity.
- II. Increase in the level of employment attributable to the human resource development subsidies in the periods 2004 – 2006 of the National Development Plan I and 2007 – 2008 of the National Development Plan II cannot be detected; instead, those ex-ante expectations prevail that forecasted a typical increase in unemployment after accession.
- III. Regarding the subsidies specifically dedicated to the development of human resources of the region, the rate of unemployment in the immediate area or county of the applicant is not adequately emphasized.
- IV. In spite of the subsidies, the convergence of the subregions with the direst disadvantages and with the biggest unemployment was below expectations in the observed period.
- V. It is possible to identify a set of areas in the region, where there were no projects implemented to develop employability or related fields in the observed period.

Apart from the first one, all my hypotheses are related to the region, so I could underline the results of my observations through analyses in county, subregion and settlement levels.

1. Materials and Methods

The initial step in the applied methodology was to review the available vocational literature. In that phase, I synthesized an overview about the evolution of employment both in absolute terms and as a consequence of the social / economic changes of paramount importance for my dissertation. One of these changes was the change of regime in 1989 – 1990, and Hungary's accession to the European Union in 2004 was the other. Throughout visiting the vocational literature, I paid special attention to uncover and evaluate the political and economic ambitions that affected the supply side of the labor market, which, besides supporting my first hypothesis, provided the groundwork for choosing among the available datasets.

Regarding the secondary data sources, I primarily relied on the National Development Agency (NFÜ) databases on the successful applicants of the HEFOP, ROP and TÁMOP projects, and the settlement level dataset of the National Employment Service, which was extended with the development category specifications as per Government Regulation 240/2004 (XI.30.). I searched the databases for elements and datasets that were relevant to the region of choice of my dissertation, South Transdanubia. Some of these sources proved to be applicable in raw database format, others (approximately 30,000 pieces of data) needed to be manually processed to meet the requirements of the analysis.

The selected data was processed in Microsoft Windows software environment with Excel 2013 spreadsheet and IBM SPSS Statistics 19 statistical applications. I utilized the functions of Excel to cleanse the data, to create basic analysis, and to prepare the diagrams of my dissertations. For descriptive statistics, bilinear regression and cluster analysis, I relied on the SPSS application

2. Results

Based on the quantitative assessment of the observed 2004 – 2008 period by TÁRKI, ex-ante vocational literature and unemployment reports, I fundamentally recognized that stating that the level of employment had improved in regional, let alone national level would be invalid. Despite the tenders resting on the resources of the European Union, both the unemployment rate and the employee inactivity increased after the EU accession, which was in accordance with the prior expectations. The sources further quantified that employment patterns had improved significantly only in the Central Hungary region. These findings evidently supported that the South Transdanubian Region would be dominated by the same tendencies. Table 1 reveals for example that with a rate of 19.1 percent and with a total of 49,800 registered job seekers, the rate seems to have declined in 2005; at the same time the absolute figures show that it meant a total of 54,000 registered job seekers, which suggests an increasing inactivity.

Table 1: Evolution of the number of registered job seekers and unemployment rate in the South Transdanubian Region.

Region		2004	2005	2006	2007	2008
South Transdanubia	1000 fő	49,8	54	53,7	56,6	57,9
	<i>ráta %</i>	<i>19,1</i>	<i>13,4</i>	<i>13</i>	<i>13,6</i>	<i>14,3</i>
Baranya	1000 fő	19,1	21	21,1	22,1	22,6
	<i>ráta %</i>	<i>11,6</i>	<i>13,4</i>	<i>13,3</i>	<i>12,9</i>	<i>13,6</i>
Somogy	1000 fő	18,7	20,3	20,7	22,3	22,7
	<i>ráta %</i>	13,4	14,5	14,6	16,2	16,9
Tolna	1000 fő	11,9	12,7	11,9	12,3	12,6
	<i>ráta %</i>	<i>11,6</i>	<i>11,8</i>	<i>10,5</i>	<i>11,5</i>	<i>12,1</i>

Source: *Own summation based on NEA (2011) statistics*

These pieces of data well support the issue formulated in my first hypothesis: inactivity is a big problem. Although this challenge was already partly identified by vocational literature, it still poses hindrances still to uncover.

The above cited TÁRKI (2010) assessment also pointed to the fact that among the programs in the focus of my dissertation, HEFOP had been more effective than the practically inefficient ROP. As it was expected, the HEFOP program had achieved qualitative results; that is it had improved employability, which had indirectly affected the level of employment. My researches regarding the HEFOP program revealed that the South Transdanubian Region had been underrepresented both in terms of quantity and in terms of value regarding successful applications (Table 2), which phenomenon already forecasted that it would not impact the level of employment even in an indirect fashion.

Table 2: Number and payout of HEFOP projects in 2004 - 2006, billion HUF

Region	Number of projects, pcs	Tender payout, billion HUF
National	1466	185,5
South Transdanubia	348	7,8

Source: *Own summation, 2014*

The fragmentation of ROP subsidies was also palpable, although not as much as the HEFOP programs. Nationally, 148 employment and education program were subsidized with a total of 8.52 billion HUF, out of which the South Transdanubian Region received 1.18 billion HUF for 21 projects, which meant an average of 56 million HUF per project. I share the view of the DDRFÜ Nonprofit Kft. (2010), which opined that even the bigger average subsidies in the region could not improve the unfavorable employment situation.

From the 2004 – 2006 period, I examined another program aimed mostly at qualitative development. The LEADER project was the first of all the programs I observed, for the rural and fragmented settlement structure and underdeveloped infrastructure of the region should have made it a best practice region, for one of the prime targets of LEADER had been the preservation of rural areas and the retention of their population. However, when I observed the number, the value and the objectives of the successful applications, it soon became apparent that the efficacy of the LEADER project had been questionable from a number of perspectives. On the one hand, the value of the subsidies was utterly fragmented (Chart 1). Even the highest average of 2.3 million HUF in Somogy County could not achieve much, let alone revitalizing rural life.

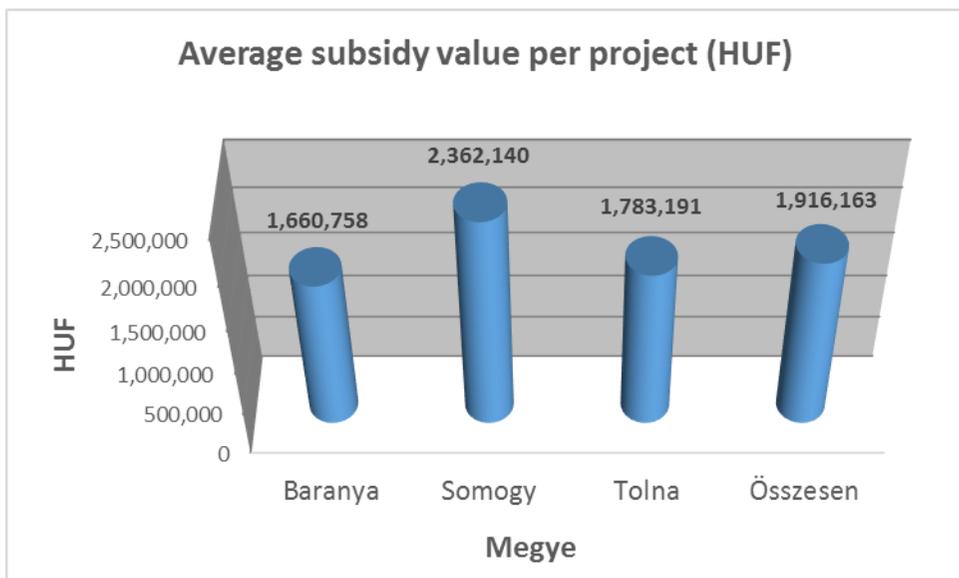


Chart 1 – Average subsidy per project (HUF)

Source: *own calculation, 2008*

As a further negative aspect, it was revealed that there had been no project announced specifically aimed to develop employment; the investment projects were the closest to that, but their fragmentation resembles to the prevailing fragmentation tendencies. To demonstrate the problem, I calculated the average

LEADER subsidy per 1,000 persons; in Baranya, this figure had been approximately 293,000 HUF. Another major issue with the program was its slowness, for the majority of payments would not be realized until the next planning period. This phenomenon had forecasted the problems of the LEADER+ program that stepped in effect in 2007, for in spite of the fact that the applicable amount had grown ten-fold, applicants could not access their subsidies because decision were not made even on what action groups would be supported until 2008.

The 2007 – 2008 programs aimed to improve employability were encompassed in one operative program, which I believe was the right direction. This program became the Operative Program for Social Renewal (with the Hungarian abbreviation: TÁMOP). The prime benefit of the new structure was that the infrastructural development subsidies were unbound and transferred to the Operative Program for Social Infrastructure (with the Hungarian abbreviation TIOP), thus the tenders could be announced with more clear-cut targets. This separation also meant that the majority of TIOP subsidies was linked to prior successful TÁMOP applications. On the one hand, it was a positive development, for infrastructural improvements would likely take places where projects had already been well run – that is project owner would probably be trustable and would be known by the operating authority, all of which would promote project owner's credibility in terms of also having the means to maintain the operation. On the other hand, those who avoided TÁMOP programs due to already running similar projects (e.g. from a previous HEFOP program) were excluded from infrastructural development subsidies regardless of their needs. In certain instances, this could anchor or even damage operations. One example for this was the education related activities which would never embrace e-learning because it could not produce enough return to cover the costs of infrastructural development, and they could not be financed by subsidies due to what described above. The

regional performance of TÁMOP in the observed 2007 – 2008 period resembled to that of the previous planning season. 73 out of the 74 successful applications were realized, which also meant that due to the single uncompleted project the region came short by 2.8 billion HUF, which dragged the average subsidy per project down to 29 million HUF – less than an average ROP project. In summary, the region received a very low amount from the TÁMOP source in the first two years.

The above observations basically approve my first hypothesis, which presumes that there are stern concerns regarding inactivity and its yet uncovered drivers on both national and regional level. These issues are ostensibly caused at least in part by the hindrances in the qualitative development of human resources, beside other factors of the economic and social complexity. My second hypothesis is also validated, for the subsidies targeted to develop human resources had negligible (if any) impact neither on employability nor on the subsequent employment levels in the region. This finding is supported by the unquestionably low value of subsidies, which problem was escalated by the fragmentation of subsidies. This picture casts doubt on the possibility of any improvement.

The national level ex-post evaluations also revealed that the low employment niveau in the settlement of a company's registered headquarters had slightly raised the amount of subsidy per successful application. (*TÁRKI, 2010*)

A similar inspection of the South Transdanubian Region was one of the cornerstones of my dissertation. Namely, my third hypothesis opined that there had been inadequate emphasis put on the level of unemployment in the immediate surroundings and county of the applicants in case of the subsidies specifically aimed at the improving human resources. In order to evince this for the region of my interest in the observed time period, I conducted a correlation analysis and I built a regression model with the settlement level variables: a) unemployment

(based on NFSZ database) and b) granted tender subsidies (along with the previously analyzed HEFOP, ROP and TÁMOP projects). In this model, unemployment was the independent variable and the amount of granted subsidies were the dependent one. Since the model passed the required mathematical and statistical significance tests, regression analysis was feasible. The prime objective of the observation was to learn the strength of correlation between unemployment and the amount of granted subsidies. The question is of paramount importance, for co-movement of the observed variables should provide insight to the thinking of political, economic and social decision makers (tender managers and applicants alike) regarding the subject of employment-related subsidies. A strong correlation would lay the groundwork to presume that decision makers had aimed to improve the unemployment situation through applying for and granting access to subsidies, which would align to the pattern identified by TÁRKI (which pattern was relatively slight though on national level); at the same time, a weak correlation would suggest that other factors influenced their decisions – ones beyond the scope of the model.

The R Square item of Table 3 reveals the strength of correlation of the variables; in case of Baranya, it is 42.3 percent, which figure suggests that the granted sum of subsidies has a correlation of just over 42 percent with the pattern of unemployment in the observed period in Baranya County. In believe this correlation is rather poor both from professional and from statistical perspectives.

Table 3: The result of correlation analysis

	Baranya County	Somogy County	Tolna County
Significance of the model	under 5%	under 5%	under 5%
Significance of the parameters	under 5%	under 5%	under 5%
R Square (coefficient of determination)	0.423	0,273	0,142
Linear model	$\hat{y} = -9,440 + 0,197x$	$\hat{y} = -11,61 + 0,197x$	$\hat{y} = -5,143 + 0,092x$

Source: *Own calculation*

At assessing the regression model, parameter b (the part of the linear model preceding x) plays the central role. Taking the example of Baranya, the following interpretations are feasible:

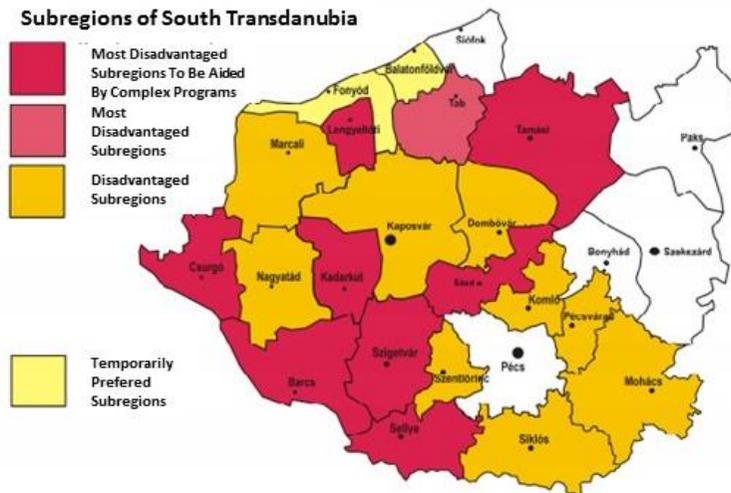
- a. A change of unemployment by 1 person in Baranya County influences the tendered and granted sum value of subsidies by 197 thousand HUF.
- b. If the decision makers aim to decrease unemployment by 1 person, the sum value of subsidies needs to be increased by 197 thousand HUF.
- c. In case the unemployment increases by 1 person, Baranya County may count on an increase of 197 thousand HUF in sum value of the granted subsidies.

In any of the above interpretations, parameter b denotes the efficiency of subsidies with regards to influencing employment, which in case of Baranya is very low. It is a worthwhile revelation despite the fact that the model's outcome is merely indicative and it cannot aspire for providing profound conclusions. Thus, it should be clear that due to the applied abstraction in the model, it provides only indirect information whether the efficiency differences among the counties were related to the use of subsidies in projects or they were rather linked to objective difficulties in the evolution of the labor market. However, I believe the joint

evaluation of R square and parameter b may lead to a valuable learning. Compared to other counties of the region, in Baranya there is a medium level correlation between the granted tender applications and the niveau of employment – still, the efficiency was the lowest there. From this fact, I strongly opine that Baranya had the most resilient unemployment amongst the observed counties. In Somogy County, there is weaker correlation between unemployment and the granted subsidies (which alone may refer to questionable decision making) and the impact of subsidies on employment is similarly weaker. At the same time, these two factors together do not exclude the possibility that there were reserves in the quality of decision making – thus, if tender application had been more closely and definitely linked to relevant employment data, the efficiency may have improved. Tolna County appears to be in the most favorable position among the counties of the South Transdanubian Region, for it accounted for the biggest influence of subsidies on employment, despite the fact that the correlation between tender applications and unemployment figures are the lowest here.

In summary, I came to the conclusion that although the national level ex-post evaluation may suggest some increase of subsidies depending on the employment levels, this pattern is not confirmed by my research regarding South Transdanubian Region. Thus, my third hypothesis is proven to be valid.

The national level TÁRKI research also revealed that the operative programs had affected employment with the lowest efficiency in the Most Disadvantaged Subregions (with Hungarian abbreviation: LHH). My empirical experiences demonstrated that the situation was even more severe in the South Transdanubian Region, primarily due to the fact that a significant proportion of the region (Map 1) belong to the Most Disadvantaged Subregion To Be Aided By Complex Programs (with Hungarian abbreviation: LHHK) and to the Most Disadvantaged Subregions (LHH) categories.



Map 1 – Subregions classified by their level of disadvantage status

Source: *Mátyás, 2008*

Based on the classification of the Government Regulation 311/2007, I applied descriptive statistics so as to identify the geographical distribution of tender subsidies. Even the first glance of the results (Chart 2) reveals that the majority of granted projects took place in HH (disadvantaged) and LHHK (disadvantaged to be aided by complex program) subregions. This tendency in itself seems satisfactory, for the supportive system appears to have preferred the subregions in unfavorable situation – although it is worth noting that the regional units with LHH classification won the least tenders, while the non-disadvantaged (with Hungarian abbreviation: NHH) subregions ran more than four times as many projects.

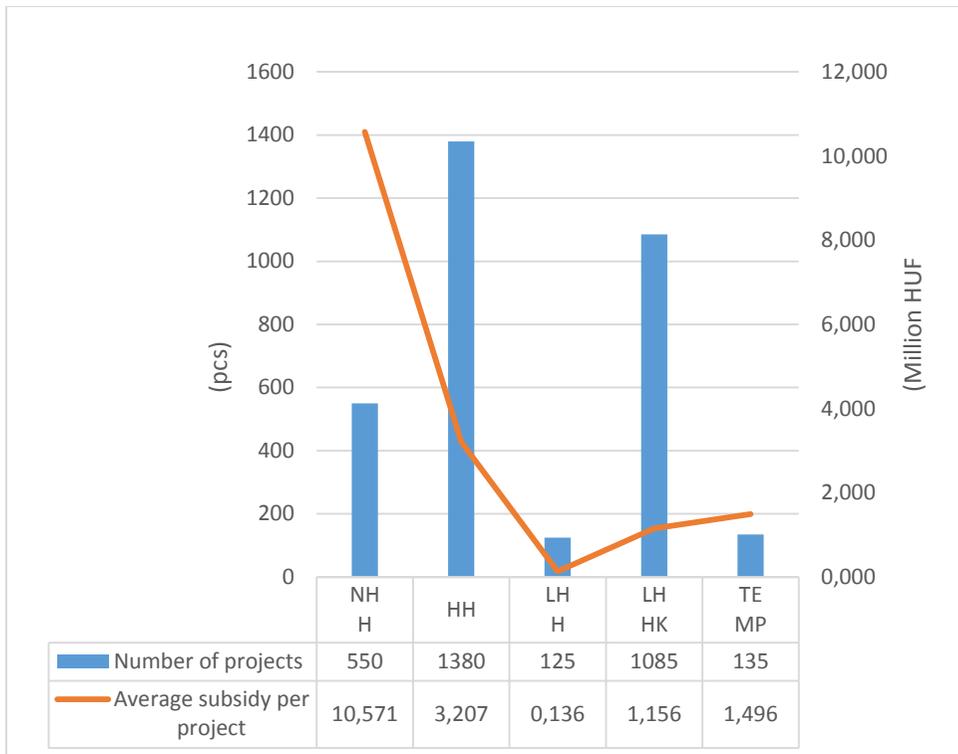


Chart 2 – Number and average value of projects in the region

Source: *Own calculation*

At the same time, extending the analysis to the average granted subsidies fundamentally alters the picture. Without doubt, the NHH subregions had the greatest capacity to attract subsidies, as the average value of projects run in these subregions exceeded 10 million HUF. In comparison, despite the large number of projects in the LHHK subregions that are mired by the largest unemployment rate, the average subsidy was but one tenth as big. The situation was ever worse in the subregions classified as LHH, for the average value of the already rare projects hardly reached 140 thousand HUF, which amount was practically useless.

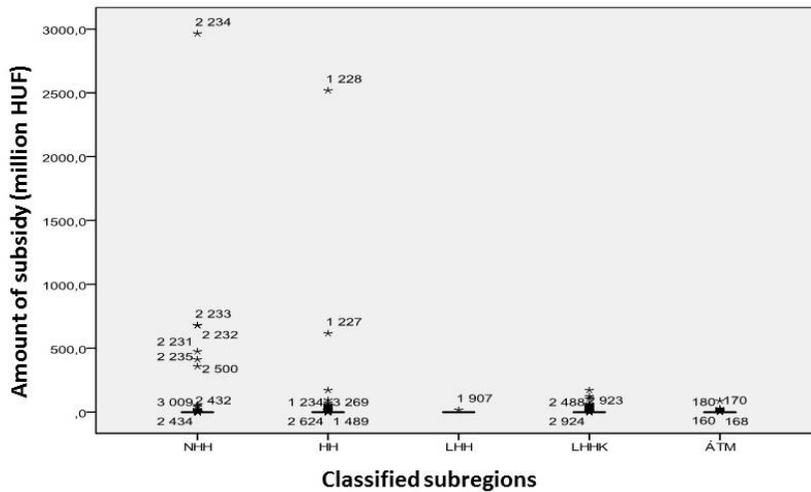


Chart 3 – Outlier test by subregional classification

Source: *Own calculation*

Chart 3 clearly depicts that the most disadvantaged subregions won on tenders in similar proportions, while the distribution of projects was more diffuse in the subregions categorized as NHH and HH. It is also obvious that the amount of subsidy did not reach 500 million HUF (in practice not even 100 million HUF) in a single subregion that combating a multitude of challenges.

Regarding the compliance of operative programs, the summarized ability of the region to attract subsidies can be considered average or just below average. However, on subregional level it does not mean at all that the subsidies were directed to the areas where unemployment and economic convergence were major issues. The results show that instead of closing the gap, the subregions with viable economy and with manageable rate of unemployment had attracted more subsidies. Therefore, my fourth hypothesis also proves to be valid.

However, the problem roots only partially in the tender system. Above, I already demonstrated that the level of contribution of unemployment in the tender applicants' assessment was not clearly regulated, but there were also a number of

other factors that influenced the distribution of subsidies beyond this single fact. When breaking down my analysis to smaller and smaller geographic areas (i.e. to subregions), I realized that areas located in the periphery had been situated positively worse, thus underdevelopment of the infrastructure had had to be a negative driver, which fundamentally had limited the number of organizations that had been able to apply to tenders. That means that apart from the flaws of the system, the lack of viable organizations also posed a challenge. This phenomenon could not be managed by the tender system alone, it would call for a set of coordinated economic and employment policy actions.

In my last hypothesis, I aimed to prove that no development took place in certain areas of the region in the observed period. All of the results discussed above fundamentally suggest that the smaller the geographical area we observe the more conspicuous the disproportions are – one should presume that this phenomenon is bound to prove valid when discerning the settlement level patterns. To confirm my hypothesis, I conducted a thorough cluster analysis for the observed period on a dataset comprising of all settlements in the region; the associated variables were the number of registered unemployed people, the amounts of subsidies and the population of active age. Three clusters emerged as a result of the analysis (Table 4)

Table 4: The pieces of data of the clusters in the model

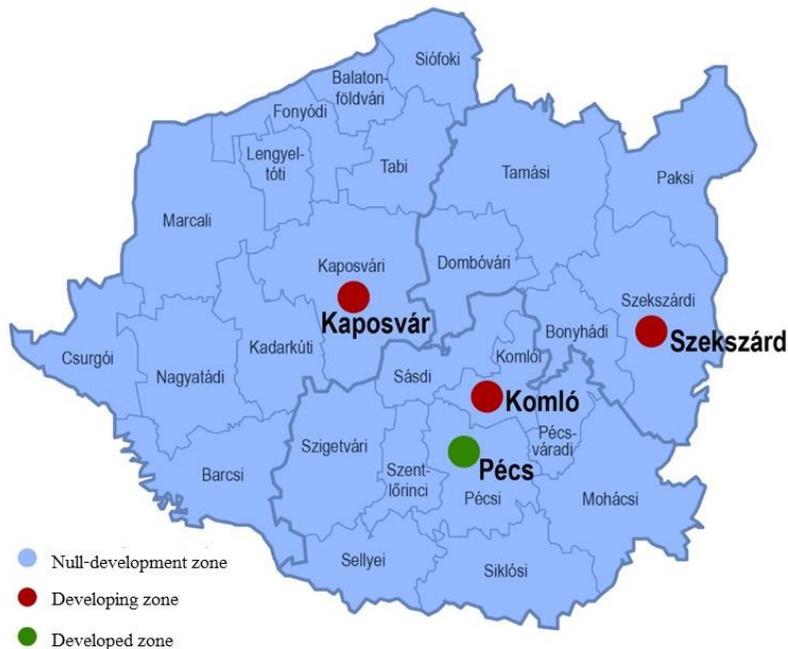
	Final Cluster Centers		
	Cluster		
	1	2	3
Number of registered unemployed persons	2,992	72	4,099
Amount of subsidy (million HUF)	679.8	1	1031
Active age population	44310.2	515.41	100499.6

Source: *Own calculation*

The emerging clusters 1, 2 and 3 can be described and named as follows:

- 1. Developing zone:** the cluster is made up of areas with an average unemployment rate of 6.75 percent, receiving an average of 680 million HUF subsidy to improve employability and having an average population of 44,000 persons. Accordingly, the subsidy breaks down to 15 thousand HUF per person of active age or, from another angle, 227 thousand HUF for each unemployed person.
- 2. Null-development zone:** the second group contains areas that reported an average active age population of 515, that were subsidized through tenders with an average of 1 million HUF and where unemployment rate was an average of 13 percent in the total active-age population. These pieces of information suggest that the average subsidy was 2 thousand HUF per person and 14 thousand HUF per unemployed.
- 3. Developed zone:** The third cluster collects those areas where the active age population on average exceeded 100 thousand persons, the rate of unemployment was approximately 4 percent and the total amount of tender subsidy was more than 1 billion HUF. In the cluster, the amount of subsidy was 10 thousand HUF per person and 251 thousand HUF per unemployed.

The emerging clusters shed light on huge differences and Map 2 visually reveals that there were sectors within the region where the amount of tender subsidy per unemployed person exceeded even 250 thousand HUF. It is also evident that an active-age population exceeding 100 thousand HUF can be a reality only in Pécs; this single settlement practically alone made up the developed zone in the region.



Map 2 – Subregion Clusters of the South Transdanubian Region

Source: *Own depiction*

Solely due to fact that the model relied on average population, the settlements that belonged to the developing zone were Kaposvár in Somogy County, Szekszárd in Tolna County and Komló in Baranya County. This also means that the smaller towns (even if two of them are county seats) can be considered belonging to the periphery compared to Pécs, as far as tender subsidies and unemployment are concerned.

However, the real periphery comprised of areas that belonged to the null-development zone, where the average subsidy of 1 million HUF did not offer a chance to get rid of the trap of high unemployment. Thus, my last hypothesis proved to be valid, for there was no real development regarding employment in 99 percent of the settlements of the region in the observed 4-year period.

Based on the above, the notion of null-development zone can be defined as: **an area where the amount of granted tender subsidies converged to 0 HUF in an average period of at least 5 years, despite a burdensome unemployment rate which is above the national average.**

4. Conclusions and Recommendations

The researches and inspections of my dissertation point out that the subsidies available through tenders failed to reach the areas in direst need. The initial observation of the pieces of data and experiences of the National Development Plan I lead to the conclusion that the subsidies aimed at improving employability need to be rationalized and aggregated. However, although these suggestions were implemented in the National Development Plan II (through concentrating resources in TÁMOP), the early experiences demonstrate that the distribution of subsidies were inefficient in the first two years of operation. Therefore, I first of all suggest to review the conditions of all employment related tenders - even those indirectly involved ones that aim to improve the qualitative attributes of the workforce. Further studies are necessary to identify the root causes of the problem of inactivity, and it needs to be established what level of subsidies is required so as the human resources could cope with the challenges of the labor market. It primarily belongs to the realm of economic policy to establish why the organizations operating in areas burdened with high unemployment do not or cannot apply to tenders; at the same time, the tendering system also can address this situation through linking unemployment and inactivity rates of the locality of the applicants' headquarters to the conditions of subsidies more fervently than what I observed in my research. Doubtlessly, the eligibility to apply to tenders also needs revision, since on the periphery (which, as per the results of the cluster analysis, covers nearly the whole region) there were virtually no organization that could apply to tenders in the observed period, and there were also hardly any new entrepreneurs in the areas underdeveloped in terms of infrastructure and economy. This state of affairs still holds true today.

Almost all my analyses confirm that the regional indicators (be them KSH, NFSZ or my own) are less than efficiently mirror the real problem of unemployment, as

well as the level of tender support. Consequently, it is not sufficient to rely only on regional data to describe the echelon of development, it is suggested to break them down at least to the details of subregions (renamed to districts recently). This rule also needs to be incorporated in the tender analysis.

In order to comply with the Europe 2020 plan, the fluency of the LEADER program must be improved. As per the experiences of the first period, the system is slow, bureaucratic and it is hardly assessable in terms of efficiency. Thus (and this is the reason it is included in my dissertation), the effectiveness of the program, which was fundamentally implemented to stimulate the retention of the rural population, is not clear – at least in the region. The second LEADER program after the accession of Hungary to the European Union did not progress in the observed period as much as the tenders would be announced, only the successful action groups came to life.

On the grounds of best practices, the employment pacts must be inaugurated as standard procedure of employment policy, instead of simply supporting them. Their operations proved to positively impact the employment niveau in the EU15 countries and they also excel in coping with the local difficulties. In order to improve the efficiency of the Hungarian pacts, the realm of their operation should be installed in the legal system.

The hypotheses of my dissertation draw an unfortunate negative picture of the South Transdanubian Region. For the sake of following up the employment situation of the region, it is recommended to continue research. As part of my prolonged efforts, in my forthcoming study I intend to filter out the effects of the World Economic Crisis of 2008, which potentially calls for the elaboration of new methodologies.

5. New Academic Deductions

- a. In Hungary, one of the key challenges of economic development is to improve activity rate, this being the only long term solution to change the current niveau of employment and morale, to increase the income of households and, to attain a more balanced distribution of public burdens. My dissertation uncovered the fact that there had been a number of measures implemented to achieve this goal, but they had not proven to be effective enough by the end of the observed period.
- b. Including the development status of the settlements of the South Transdanubian Region into the analysis, I unequivocally proved that the efforts aimed at the convergence of the lagging settlements had clearly failed; what is more, the gap between the intrinsically underdeveloped areas and the national averages had grown.
- c. Via a correlation model, I demonstrated that the granted subsidies on tenders targeted to improve employability had been disproportionate to the unemployment situation of the counties. The correlation of unemployment and the amount of subsidies granted through tenders was exceptionally low in the observed South Transdanubian counties; even the most favorable correlation in Baranya did not exceed 42.3 percent, let alone the very adverse situation in Somogy and Tolna counties. Besides, the utilization efficiency of the subsidies was subdued.
- d. My observations tangibly proved that the tender subsidies had flown to the non-disadvantaged (NHH) subregions. Consequently, the development of the backward subregions was an unaccomplished task of the tender system in the prevailing economic and infrastructural environment.
- e. With cluster analysis of the regional distribution of subsidies, I identified three distinctive clusters to classify the settlements. I established that 99 percent of the settlements of the region had belonged to the null-development

zone with tender subsidies converging to zero. In contrast, the 4 settlements belonging to the rest of the two clusters gained a couple of 100 million HUF of subsidies, despite their relatively more favorable intrinsic employment status. As a result of the cluster analysis, I defined the notion of null-development zone: **an area where the amount of granted tender subsidies converged to 0 HUF in an average period of at least 5 years, despite a burdensome unemployment rate which is above the national average.**

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