

**University Doctoral (PhD) Dissertation Theses**

**THE EMBEDDEDMENT ACCORDING TO SEAT (REGIONAL) OF INSTITUTIONS  
OF HIGHER EDUCATION IN THE NORTH HUNGARIAN REGION**

Mónika Lőrincz

Supervisor: **Dr. habil. Tamás Köpeczi-Bócz, PhD**



UNIVERSITY OF DEBRECEN  
Kálmán Kerpely Doctoral School

Debrecen, 2016

## 1. REASON FOR CHOSING THIS SUBJECT FOR PhD THESIS

Every university was funded in different historical periods with particular feature, particular political system, particular proprietary structure and particular economic background, which characterised the particular era (*Table 1.*). The historical antecedents considerably influenced the situation and role of the institutions as well as the course of their development. Although they had common features but their spatial projections are very dissimilar. In the 19th and 20th century Hungarian history – in the periods of economic integration with the modification of political system and transformation of the social background – the economic and social functions of tertiary education underwent considerable changes, which started to accomplish by the second half of the 20th century and the early 21st century.

**Table 1:** Particular characteristics of economy and tertiary education in the periods of integration

Main characteristics	Dualism	State socialism	European integration
<b>ECONOMIC STRUCTURE</b>			
Economy	Precapitalist, capitalist	Autark	Capitalist
Institutions of market economy	Built up	Eliminated	Built up
Form of property	Private property	State property	Private property
Dominant economic sector	Industry	Indusrty	Service
Demand of dominant economic sector	Capital	Aggregation	Knowledge, innovation
Guideline of sectoral development	Harmonic connection between sectoral development and production verticum	Forced industrialisation at the cost of agriculture	Alongside the dominant service sector the rate of industrial sector is considerable
Structure of national economic sectors	Heterogeneous	Homogeneous	Heterogeneous
Driving force of development	Industrial revolution	Industrial politics	Global impacts, competition
Region-shaping forces	Development of economy	Industrial politics	Global impacts
<b>TERTIARY EDUCATION</b>			
Independent regulation of tertiary education	Did not exist	Did not exist	Existing
Driving forces of the development of tertiary education	Economic development and expansion	Industrial policy	External and internal factors, global impact, social and economic needs
Configuration of tertiary education	Bipolar	Homopolar	Homopolar
Functions of tertiary education	Training	Training	Training, R&D, innovation, promotion of social and economic development
Types of institutes	Universities, specialized institutions	Universities, specialized universities, colleges, technical schools	Universities, colleges

Source: own edition.

In the decades following the system change the institutions – under the influence of continuous changes and challenges – started to integrate into the social and economic courses. Nowadays it is required that – in accordance with the specialisations and trends settled by National Intelligent Specialisation Strategy – universities take part in the building of innovation competence of technology-intensive enterprises.

The project is of particular actuality, as innovation oriented development has a prominent role in the cohesive and structural policy of the EU, in which tertiary education gets particular attention, because these institutions are no longer followers of social and economic changes, but they can influence the deposition of rates in the economic structure and economic development.

To moderate regional disparities, European and Hungarian regional development policy considers particular importance to the economic structure of the regions and their potential to be reformed, which is one of the corner stones of compatibility. Considering the more and more diversifying functions of universities, the question is, which factor is more significant; tertiary education or the relation between the sectors of national economy. We are going to show the reasons and disadvantageous features of regional disparity through the different integration periods and through the economic structure of the multiple disadvantageous Northern Hungary and its tertiary institutions.

## 2. OBJECTIVES OF THE DISSERTATION

One of the objectives is to present how and what factors formed the development directives of sectoral structure and higher education in different periods of integration in the 19th- and 20th- century Hungary. How can correlation be characterised in the precapitalism, autarky and market economy, and how differentiated the area and age-specific features of these factors. Also, we intended to survey what role the attributes of integration periods played in formation and deepening of regional disparity, as we can not ignore the courses, which influenced the present stage.

Another objective is to survey the sectoral conditionality of regional dimensions from the aspect of European and national regional policy, the character of sectoral links and their preferred trends, as well as the reasons of discrepancy in the labour market owing to sectoral characteristics.

Furthermore, we are going to survey the sectors of state economy, regional dimensions of higher education, and to demonstrate features of regional breakaway and multiple disadvantage through historical antecedent of the Northern Hungarian region, through its social and economic courses and through evaluating the situation of the regional tertiary institutions and their R&D&I conditions from the aspects of enterprises.

In accordance with the objectives of the survey, and elaborating the domestic and international literature we put the following hypotheses in the foreground:

- *Hypothesis 1:* A university possessing homogeneous functions depends on transformation of the homogeneous regional economic structure to a higher degree than an institution which is based on a wider R&D&I disciplinary basis and performs more diversified functions. Institutions founded on a wider R&D&I disciplinary base can play a role in development of local economies more actively and more efficiently, and they can also strengthen regional organization and cohesion of higher education and economy.
- *Hypothesis 2:* The economic structure and social processes differentiate role and functions of knowledge-intensive branches – such as universities – regionally. It is as knowledge-intensive branches belonging to the group of public services have a more important social benefit on the short run than the indirect added value produced by them in disadvantaged regions. A synergic parallelism

appears between the state of local economy and higher education institutions in these conditions.

- *Hypothese 3*: Geographical extension of activity range of the characters in regional institution system influences depth of their embeddedness according to the centre (region) which can stimulate formation of local co-operations and networks, exchange of information and local intervention of participants in exchange of economic activities and non-market-based sources.
- *Hypothese 4*: The nature of enterprises and the weight they represent in state economy differentiates between the demanding R&D&I departments.

### **3. THEME AND METHOD**

We reviewed and processed the domestic and international specialized literature in accordance with the objective of the dissertation, the primary sources of which were books, articles, studies on regional discipline. other sources were archival documents, publications on economy, economic history, sociology, history of higher education, publications and reports of European Union and its committees, governmental concepts on higher education and related sources of law.

In processing the sources we focused our attention on:

- revealing the possible and supposed connection between area and age-specific factors influencing economic structure and functions of higher education,
- highlighting the cause-and-effect link of regional and sectoral disparity,
- preferred trends of national and European regional policy,
- reasons of work market discrepancy,
- introducing the situation of the Northern Hungarian region,
- evaluating the company aspects of R&D&I conditions at tertiary education institutes in the region.

Parallel with surveying and processing we collected the relevant domestic and international statistical data. The primary sources of statistics are the Central Statistical Office, Regional Information System, Higher Education Quality Improvement Portal, Northern Hungarian Statistical Yearbook, Higher Education Statistical Yearbook, reports of National Audit-Office, National Employment Service, national and Europe Union statistiscal database and reports and OECD publications.

In the course of extensive data-gethering we support our results with processing and analysing time-series statistics, demonstrating the trends of spatial processes as well as their causality. The topic of secunder data-gathering is above all the sectoral structure and higher education – two important factors of economic and regional competitiveness – but there is special emphasis on the factors that influence the transformation of social and economic courses in all the three integration periods.

This method is considered unique in which we summarise in one single table the tertiary education institutes founded on the factory grounds in the dualism as well as the systemic cross-impact matrices influencing the modern higher education supply and R&D potentials, which, on one hand, set the results of our empiric research, on the other hand highlight on the current situation of Hungarian regional policy.

Beginning with the Compromise of 1867 we gathered and surveyed the sources of law on higher education, and its development concepts. It must be mentioned, that the sectoral development directive was fixed by law, however, higher education itself got the self-regulatory rank only in 1993.

In the course of our empiric research we carried out a needs assessment at University of Miskolc among such sectorally limited but knowledge-intensive enterprises – through their activity – which are prominent members of knowledge-based economy and this way they got into the focal point of the institution's strategic target area. We tried to map the needs and concepts of these enterprises concerning R&D&I, as well as those factors which can be determinative from the point of view of their development and extension and their cooperation with the university.

University of Miskolc disposes strong technological roots and traditions. There are big differences between the six faculties. Primarily the three technological faculties (Faculty of Earth Science, Materials Science Engineering Faculty, Mechanical Engineering and Computer Science Faculty) represent the innovative potential and R&D orientation. As for the industry composition automotive and attached construction engineering, mechatronical industry and power engineering and information technology were emphasized.

We composed the questions on the questionnaire about the R&D&I needs and images of the enterprises after setting the sectorally restricted target group. We specified the range of questioned enterprises that way, that they match the aim of the survey in character and size. Primarily we targeted enterprises that are based in the Northern Hungarian region and their activity is innovative, which can be relevant for the results of the evaluation. Beyond that, we questioned transregional enterprises, too, in order to find out how their geographical situation and geographical distance influences their activity and cooperation willingness.

The target group and the responding enterprises are of average sample size. All in all 54 enterprises responded; 51 by filling the questionnaire, 6 of them in the form of letter of intent for cooperation.

The sample was electronically recorded and processed – and in accordance with the questionnaire's content – more types of statistical methods were applied. By the help of confirmative data analyses we intended to enforce our hypothesis (in a statistical sense). Later on univariate distributions, percentage value descriptive statistical distributions,

average value distributions, ordinal scale model, variable and response options tag and multidimensional scaling were applied.

In the course of literature gathering we primarily processed publications that describe operation characteristics of knowledge-intensive enterprises, as well as relevant economic sociological and socioeconomical literature.

Synthesising our results – depending on their character – we drew the conclusion not only about University of Miskolc but also generally.



#### 4. MAIN STATEMENTS AND CONCLUSION OF THE DISSERTATION

The surveys of the dissertation focused on the correlation between the functions of tertiary education and structure of economy, both in time and area. Particular attention was paid on the aspects of sectoral conditions and the regional policy in the evaluation of connections. In accordance with our goal we aggregated our main conclusion with our main statements, conclusions and proposals around the four hypotheses.

***Hypothese 1:** A university possessing homogeneous functions depends on transformation of the homogeneous regional economic structure to a higher degree than an institution which is based on a wider R&D& I disciplinary basis and performs more diversified functions. Institutions founded on a wider R&D&I disciplinary base can play a role in development of local economies more actively and more efficiently, and they can also strengthen regional organization and cohesion of higher education and economy.*

In the course of history development of higher education followed the changes of social and economic courses (sometimes under the pressure of necessity). Historical background of economic courses and functions of higher education confirm our hypothesis that in absence of long-term and deliberate economic- and education policy, as well as lack of synergy and coordination between sectoral policy that development objectives and instruments alone are not sufficient and effective.

In the age of dualism, professional institutions with homogeneous training profile were founded for a territorially diversified economic structure, in a regionally decentralized way. During the era of autarchy, *professional institutions with homogeneous training profile were founded, too but in this case, they were joined to a regionally homogeneous economic structure.* Educational function of higher education was the determining one among its roles in both eras – but because of different reasons which are summarized in *Table 1*. In the days of dualism, there were also researches in higher education institutions, but economy itself was innovative. That time an invention or a patent resulted in 3-4 % growth of GDP annually.

Theoretical and applied research was within the competence of Academy in the 40's, that is the reason why R&D&I activity of the universities became weightless and neglected from the early 1950's against academic research network. Limiting the functions of universities hindered their cooperation with and integration into the

economy and an increasing social engagement. After three decades, in the 80's it started to be outlined, that an active role of universities in R&D network should be increased. By that time these structural problems became evident, and the dilemma of classic industrial sector in crises was continuously deepening since the late 70's. The regional institutional structure in crises – being adapted to the dominant specialist sectoral needs – and marginalised R&D of universities resulted in crises of different fields of science (in the first place engineering) by the 90's.

If the sectors are developed in a decentralised and differentiated way, but without sectoral connections, moreover operating basic conditions are not guaranteed (industrial raw materials and natural resources, neglecting research at universities, narrow training profile fitting the homogeneous economic structure), the lack of synergy between development priorities preserves and deepens regional disparities.

In the second half of the 20th century, this practice of industrialised countries showed, that increase the number of students and diversification of training structure considerably contributed to the acceleration of social and economic development, and a higher level of division of labour broadened social services. A further characteristic of state higher education was the formation of multidisciplinary universities.

In Hungary, multidisciplinary universities were formed a bit later than in other regions, in the second half of the 20<sup>th</sup> century and at the beginning of the 21<sup>st</sup> century – partly thanks to the institutional integrations of that time. The wider R&D&I disciplinary base following from it and the diversifying functions of institutions helped on increase of community and economic interventions of universities (*Table 2.*).

**Table 2:** Cross-impact matrices of factors influencing higher education training supply

Factors influencing higher education training supply	Direct impact	Indirect impact	Influence at a regional level	Influence at national or higher level
Economic structure	■			■
Sectoral policy	■			■
Social needs		■	□	□
Local needs (local actors)		■	■	■
Social courses (migration, demography)		■		■
Labour market demand		■	■	■
Global impacts		■	□	□

Source: own edition.

Key: ■ – detectable connection, □ – non-detectable direct connection.

**Table 3:** Cross-impact matrices of factors influencing higher education research and development potential

Factors influencing higher education R&D potential	Direct impact	Indirect impact	Influencable at regional level	Influencable at national or higher level
Global impacts		■	□	□
National sectoral policy	■			■
EU sectoral policy	■	■	■	■
Economic structure	■			■
Receptive economic environment and conditions	■			■
Needs of economic actors (national, local, international)	■		□	□
Sources and content of financing at disposal	■		■	■
Regulatory environment		■		■
Resources at disposal (human, instrument, infrastructure)	■		■	■
Cooperation willingness and culture	■		■	■

Source: own edition.

Key: ■ – detectable connection, □ – non-detectable direct connection.

Our research results verified that it can lead to deep crisis of universities if these institutions are forced to adjust their classical functional activities to characteristics of regional economic structure only (and which are mainly unfavourable). *A wider R&D&I base* induces greater research and development and innovation activity, creates possibility of formation and adaption of modern research and development and innovation business services which can help on regional organization and cohesion of higher education and economy (*Table 3.*) and which can stimulate and catalyse local economy and intervention of universities in treatment of social, economic, cultural, global processes and challenges.

***Hypothes 2:*** *The economic structure and social processes differentiate role and functions of knowledge-intensive branches – such as universities – regionally. It is as knowledge-intensive branches belonging to the group of public services have a more important social benefit on the short run than the indirect added value produced by them in disadvantaged regions. A synergic parallelism appears between the state of local economy and higher education institutions in these conditions.*

The most important question for regional policy is, how the different regional sectoral productivity influence formation and deepening of territorial disparity. Within service sector in successful areas the rate of value leading factors is very high. If service exceeds the structure of employment, it deserves serious consideration, what the rate of value added sectors is. Services that provide primary care are indispensable in a region, but they are not a key success factor. These are e. g. repair service, retail trade and public service.

The sixth cohesion report of the European Union differentiates 11 pillars of regional competitiveness according to the development level they refer to. The report ranks the branches providing basic supply among the basic components. These components are important for the less developed regions.

Within the structure of service sector of regions with more disadvantaged characteristics, traditional but mainly knowledge-intensive branches (such as public administration, public health, public education, public services, trade) dominate. However, majority of them contribute to increase of present or future income producing ability of local economy to a less degree only and they have a more important social benefit than an indirect added value produced by them on the short run only and moreover, they also claim considerable state investment.

Our research results confirmed that proportion of public and other services is high among the knowledge-intensive branches in economic structure of disadvantaged regions, which refers to stiffening of branch structure. These results are in obvious connection with social and economic processes of the region. Considering the significant tendencies, we can experience a significant backwardness in quality of life, in learning level, in health state, in average age and in social situation of the population, compared to the national average.

Circle of knowledge-intensive public services (public administration, public education, public health, public service) demands highly qualified experts with higher education qualification. But these services have social benefit primarily. It is obvious that a circle of social benefit is measurable and can be made numerical. It is obvious, too, that this circle of services is realized in GDP indirectly, mainly on the medium and long run – but they do not produce an added value which can affect the growth of GDP directly on the short run.

On the base of our research results, we could experience that unfavourable social structure and processes influence on branch structure in case of the North Hungarian

region. It is supported by very topical topics such as establishment of Off-site Higher education Centres. Two towns had a demand of it in connection with University of Miskolc. Both of the towns marked training belonging to health sciences. Ózd would claim training of health visitors (problems in social structure) and Sátoraljaújhely would lay claim to training of people with degree in nursing (unfavourable social processes).

Surveying territorial dimensions of higher education and the economic structure of the region, we can see that harmonizing the training supply and workforce needs in a disadvantageous one-sided area is a serious problem. In such areas restructuring of higher educational sector to meet the needs of local economy will not be efficient, and, what's more, it can generate negative effects.

To support this statement we compared the structure of labour market demand in Borsod-Abaúj-Zemplén county and distribution of training fields of University of Miskolc. We found out that the rate of service sector (public and 'other' services and market services together) is 68.5 %, while the rate of industrial sector is 27.1 %. We also see, that within the tertiary sector the rate of public and other services is dominant. We summarized the labour market fit of different training areas in a table, which proves that the structure of labour market demand and structure of training show rates.

Nowadays tertiary sector is the dominant sector in branch structure of all regions. Our examination results though pointed out that if proportion of people employed in public sphere is high within tertiary sector in consequence of structural disproportion, unfavourable economic structure differentiates roles and educational functions of universities regionally as labour market demands reflect structural disproportion of unfavourable economic structure. In our opinion, it is worth taking movement of structural proportions within tertiary sector into consideration in regional development policy and in formation of branch strategies.

***Hypothese 3: Geographical extension of activity range of the characters in regional institution system influences depth of their embeddedness according to the centre (region) which can stimulate formation of local co-operations and networks, exchange of information and local intervention of participants in exchange of economic activities and non-market-based sources.***

We approached the question of how regional institutions (e. g. higher education institutes, actors of economy and industry) can be embedded in a region and can contribute to its development by the help of questionnaires, economic sociological and

socioeconomic literature. Integration mechanisms of the economy are associated with the structure and institutions of a society, that is the forms of economic integration are embedded in non-economic relations like culture and/or politics. The structure of economy, institutional conditions, a network of personal relationships have site-specific areal features. This is the reason why we make distinction between the seat (regional) and business and market coverage of economic and social actors.

We can characterise embeddedness of small- and medium-sized enterprises by their relationships with local community, as they can rely more on local resources than large companies, so this way they depend more on different regional source supply. From the necessary sources for their activity infrastructural conditions, human factors are accessible on the grounds of their embeddedness at their seat. If the location of their seat differs from the range of their activity, they become less perceptible by the local community. The reason for this can be searched in that their activity can be largely beyond the limits of the local community.

With our questionnaire we targeted enterprises whose headquarters can primarily be found in Northern Hungarian region and their innovative activity can be relevant for the results of evaluation. We addressed transregional enterprises, too, in order to find out if their geographical situation and distance influence their cooperation willingness. Evaluating the questionnaires we found that 61 % of the responding enterprises are based in the Northern Hungarian region, while 31 % seats in the Central Hungarian region, 6 % in the Southern great plain region and 2 % in the Northern great plain region.

As for the scope of activity of the questioned enterprises, national and European Union markets are significant. Embeddedness of small- and medium-sized companies is influenced by the market geographically and the depth and rate of their adaptability, and time and fast adaptability seems to be a bottleneck. Seemingly, small- and medium-sized companies compete with the products and services of their rivals on international scene. In fact their R&D&I abilities, their performance and their development trends are the real challenge. These activities are for the future, they bear considerable risks, because it is the market that determines what to prefer from the several R&D results.

The different features of embeddedness according to seat and range of activity make it state that the range of activity (in other words, geographic coverage of market) influences the embeddedness according to seat and local engagement.

In economic social sense, functions of University of Miskolc (or of universities) can be differentiated on the base of their field-specific characteristics. R&D&I activity of universities is quite extended geographically by their connection to international knowledge bases and networks – moreover, it can be considered as an unlimited (global) phenomenon. It makes local intervention at a wider range possible for universities in catalysing of social and economic processes. But considering their community intervention and educational functions, universities have a determining relation with local communities.

Although not significant, but it is remarkable that some companies based in the Central Hungarian region would be willing to cooperate with University of Miskolc – in the first place in R&D&I projects – but they can not see how a Budapest based company and a regional university could implement common regional projects – because of the criteria of tenders.

It suggests that on one hand these enterprises are capable of evolving, have growth potential, on the other hand they are looking for cooperative opportunities with universities in the convergence regions in order to have an access to application resources. Their cooperative willingness is motivated by their geographical location rather than geographic distance. Cooperation between innovative enterprises (SMEs) of central region and universities of convergence regions can result a new type of networking and appearance of indirect effect of the central region which can moderate territorial disparity of convergence regions. However, innovative enterprises have an extremely high risk of financing. Research results verified that they want to moderate their risks in financing by source composition of development.

Innovative enterprises have high financial risk and the intermediary market – that conveys resources – notices this risk in the innovation. We categorised the resources – which are necessary for actuation and development of the enterprises – into external and internal grounds (by the help of national and international literature). Evaluating innovation services and barriers we saw the high risks of R&D&I activity at knowledge-intensive enterprises, as source and mediation are the greatest challenge for the respondents. In spite of that we found that R&D willingness of the enterprises is continuously growing. It can be explained by the fact that enterprises can reduce the financial risks of their proposed development with the content of their resources, due to the fact that their R&D&I projects can be realised mainly from application resources.

Universities can have a role in moderating the financial risks of enterprises by acting as source intermediary market between state and private sector with the help of their complex innovation service. Regional performance largely depends on the development of public innovation finance structure which can be a basic condition for the enterprises to receive a higher proportion of different forms of support.

***Hypothese 4: The nature of enterprises and the weight they represent in state economy differentiates between the demanding R&D&I departments.***

The functions of universities – business service innovation – can be considered such activities that convey high added intellectual value.

Resource demand of a particular etap of innovation course is different. Sector boundedness and life-cycle of enterprises induces different needs. This life-cycle differentiates resource types in time and also the cooperation type and plant. Needs and requirements of enterprises (due to their range of activity) directly influence the type of their cooperation with universities. Universities have to consider these peculiarities when they shape their innovation service portfolio.

The industrial character and sectoral weight of enterprises can differentiate R&D&I demanding departments. The greatest demand can be seen in the field of information technology, engineering and materials science at the enterprises questioned. The type of planned R&D activity gives a hint to sectoral connections of different enterprises, that is, in a particular production and service activity what other labour processes, branches, sectors are involved and engaged in production plant. The type of connection between production plants has an impact on the shift of local structural rate – in the medium and long run –.

Evaluating the survey we concluded, that beyond information technology, automotive and engineering mechatronical industry and energetics and connecting fields of science, they all need materials science research. We also concluded, that development of materials science research is one of the basic conditions of development of automotive and information technology.



## **5. NEW SCIENTIFIC ACHIEVEMENTS OF THE DISSERTATION**

1. On the basis of comparative analysis using archival and statistical data sources and multidisciplinary processing of national and international references, I determined that field and time specific characteristics of development directives in higher education and of structure of branches in national economy in the 19th and 20th century economic integration periods of Hungary were differentiated by the effect of kind of factors.
2. I stated that attributes of integration periods had a role in formation and deepening of regional disparities. We demonstrated what role the attributes of different integration periods played in developing and deepening regional disparities.
3. I examined casemaps and networks of branches from the aspect of European and national regional politics and pointed out reasons for discrepancy in labour market coming from it. Focusing partly on regional embeddedness with the help of empiric investigation we evaluated the aspects of R&D&I conditions of universities and enterprises. Applying the results we drafted some novel recommendations.
4. We made situation analysis of university and company aspects of R&D&I casemaps with the help of empirical examinations. Results can be used for effective realization of higher educational strategy.
5. Leaning on results of empirical examination, I differentiated and defined embeddedness relating to the centre (region) and to activity range.

## **6. PRACTICAL UTILITY OF RESULTS**

1. The R&D&I disciplinary basis of universities enables them to create and adapt modern R&D and innovation business service, which stimulate and catalyze local economy and universities in managing social, economic, cultural and global challenges.
2. In regional development policy and sector strategy design special attention should be paid to the shift of structural rates within tertiary sector in disadvantageous regions, where within service sector there is a considerable emphasis on public and other services. These are knowledge-intensive sectors (e. g. hygiene, social care) as they demand considerable state investment.
3. Willingness to cooperate in case of innovative enterprises possessing growth potential of the central region is motivated by their geographical situation. Cooperation between innovative enterprises (SMEs) of central region and universities of convergence regions can result a new type of networking and appearance of indirect effect of the central region which can moderate territorial disparity of convergence regions.
4. Universities can have a role in moderating the financing risks of enterprises by acting as source intermediary market between state and private sector with the help of their complex innovation service. Regional performance largely depends on the development of public innovation finance structure, which can be a basic condition for the enterprises to receive a higher proportion of different forms of support.
5. The resource demand of a particular etap of innovation course is different. Sector boundedness and life-cycle of enterprises induces different needs. This life-cycle differentiates resource types in time. Universities have to consider these peculiarities when they shape their innovation service portfolio.

## 7. PUBLICATIONS IN THE SUBJECT OF THE DISSERTATION



UNIVERSITY OF DEBRECEN  
UNIVERSITY AND NATIONAL LIBRARY



Candidate: Mónika Lőrincz  
Neptun ID: HF3YOW  
Doctoral School: Kerpely Kálmán Doctoral School

Registry number: DEENK/45/2016.PL  
Subject: Ph.D. List of Publications

### List of publications related to the dissertation

Hungarian scientific article(s) in Hungarian journal(s) (5)

1. **Lőrincz M.**, Köpeczi-Bócz T.: A vállalkozások székhely és tevékenységi kör szerinti differenciálása.  
*Agrártud. Közl.* 67, 55-59, 2016. ISSN: 1587-1282.
2. **Lőrincz M.**, Köpeczi-Bócz T.: A felsőoktatás képzési szerkezetét és kutatási potenciálját befolyásoló tényezők időben és térben.  
*Agrártud. Közl.* 67, 49-53, 2016. ISSN: 1587-1282.
3. **Lőrincz M.**: A felsőoktatás helyzete és szerepe az Észak-magyarországi régióban.  
*Agrártud. Közl.* 63, 91-96, 2015. ISSN: 1587-1282.
4. **Lőrincz M.**: Az önszabályozás és a piaci mechanizmus szerepe a felsőoktatásban.  
*Agrártud. Közl.* 61, 91-97, 2014. ISSN: 1587-1282.
5. **Lőrincz M.**: Az államháztartási reformok és a felsőoktatás átalakításának új kihívásai Magyarországon regionális megközelítésben.  
*Gradus.* 1 (2), 203-207, 2014. ISSN: 2064-8014.



Address: 1 Egyetem tér, Debrecen 4032, Hungary Postal address: Pf. 39. Debrecen 4010, Hungary  
Tel.: +36 52 410 443 Fax: +36 52 512 900/63847 E-mail: [publikaciok@lib.unideb.hu](mailto:publikaciok@lib.unideb.hu) Web: [www.lib.unideb.hu](http://www.lib.unideb.hu)



Hungarian conference proceeding(s) (2)

6. **Lőrincz M.**: Új kihívások a nemzetgazdasági ágak és a felsőoktatás kapcsolatában Észak-Magyarországon.

In: Tavaszi Szél Konferencia = Spring wind 2015 : Konferenciakötet. Szerk.: Keresztes Gábor, Líceum, Eger, 249-262, 2015. ISBN: 9786155509971

7. **Lőrincz M.**: Új kihívások a nemzetgazdasági ágak és a felsőoktatás kapcsolatában Észak-Magyarországon.

In: Tavaszi Szél Konferencia, Eger 2015. április 10-12. : Absztraktkötet 2015. Publio Kiadó, Budapest, 437, 2015. ISBN: 9789633977026

Foreign language conference proceeding(s) (2)

8. **Lőrincz, M.**: The effect of economic structural transformation following the Hungarian change of regime in higher education.

In: Value changes in a transforming economy : Challenges in the Carpathian Basin : 12th Annual International Conference on Economics and Business 5-6th of June, 2015 Csíkszereda, Seklerburg, Miercurea Ciuc. Ed.: Andrea Csata, Gergely Fejér-Király, Ottilia György, János Kassay, Benedek Nagy, Levente-József Tánczos, Risoprint, Cluj-Napoca, 63-74, 2015. ISBN: 9789735315665

9. **Lőrincz, M.**: The effect of economic structural transformation following the Hungarian change of regime in higher education.

In: Value changes in a transforming economy : Challenges in the Carpathian Basin : 12th Annual International Conference on Economics and Business 5-6th of June, 2015 Csíkszereda, Seklerburg, Miercurea Ciuc. Ed.: Andrea Csata, Gergely Fejér-Király, Ottilia György, János Kassay, Benedek Nagy, Levente-József Tánczos, Risoprint, Cluj-Napoca, 386-387, 2015. ISBN: 9789735315665

The Candidate's publication data submitted to the iDEa Tudóstér have been validated by DEENK on the basis of Web of Science, Scopus and Journal Citation Report (Impact Factor) databases.

23 February, 2016

