

13 The Logistical Opportunities of Szeged

Ferenc Tráser

13.1 Introduction

As accession to the European Union draws near, it is time to consider what challenges the town of Szeged as the southeastern gateway to the EU faces in the field of logistics and what logistical demands it will need to meet in future in order to play the role of a logistics gateway.

In Szeged's logistical, social and economic development, primary significance may be assigned to the town's geographical location and to the partitioning of its economic region, which has determined development as well as industrial, agricultural and societal aspects since the Treaty of Trianon was signed after World War I. (Enyedi 2000, R. Mészáros 1998). Following accession to the EU, Szeged will become a border town for a transitional period and an EU gateway to the Balkans along the Romanian and Serbian borders (Horváth 2001, Tóth and Golobics 2002, Rechnitzer 2000). In the years to come, this fact, in addition to the locality's good transport links and potential for innovation, might become an essential factor in the decision-making process concerning short-term development.

In order to exploit this temporary advantage, we need to elaborate an algorithm based on a well-defined vision of the future, which can be equally favourable for the enterprises working here, for the "decision-makers in Brussels", who, with their financial resources, influence local processes here, as well as for capital on the other side of the border, beyond the boundaries of the current region.

In this examination method, Szeged's competitive ability might move into the foreground (Lengyel and Rechnitzer 2000). For this purpose we need to take into account research findings at the crossroads of several sciences.

In this paper I try to survey the changes in Szeged's logistical opportunities based on national and international research findings. I will draw up expectations that need to be met in order for Szeged to become a modern centre for commerce and logistics in the near future and to fulfil an integrative role within and beyond the borders of the region.

13.2 A SWOT analysis of Szeged

To be able to describe Szeged's logistical area and a vision for the future, a logistics-centred SWOT analysis of the town seems in order. While making up this analysis I relied some research findings of Szeged and Csongrád county (RDP 1999, PSP 2001, SPER 2001).

(a) Strengths

- ◆ In the European regional development context, the town's geographical location is excellent (it lies at the juncture of three borders).
- ◆ An east-to-west road transport corridor crosses it. Both for Serbia and for Romania "the road to Europe leads through Szeged". (Vienna-Budapest-Szeged-Belgrade, Vienna-Budapest-Szeged-Bucharest).
- ◆ Szeged is the hub for routes within the region (Szeged-Kiskunfélegyháza-Kecskemét, Szeged-Csongrád, Szeged-Hódmezővásárhely-Szentes-Szolnok, Szeged- Hódmezővásárhely-Békéscsaba).
- ◆ The administrative area of the town boasts a functioning airport.
- ◆ The infrastructure of the town is favourable, the avenue-and-ring road structure of the town is highly advantageous.
- ◆ Primed areas of development (Priority Economic Zone).
- ◆ The establishment of the Logistical Service Centre of Szeged is part of the National Regional Development Plan (A feasibility study has already been carried out).
- ◆ Szeged is the largest town in the southern plain region and has been a hub for centuries.
- ◆ It has been a centre of education, healthcare, culture, commerce and public administration.
- ◆ The town is an intellectual centre: the proportion of inhabitants with a college or university education is high. It is an especially liveable town on a human level with a very good atmosphere.
- ◆ It is a popular conference venue.
- ◆ Szeged itself, as a big town, is a consumer hub (both in terms of orders and purchases).
- ◆ It is characterised by business activity well beyond the county average.
- ◆ The town and its region are marked by a flexible labour market and the capacity to absorb and release the labour force, thus adjusting to fluctuations in economic activity. A relatively low unemployment rate.

- ◆ The appearance of multinational chains (such as Metro, Tesco, Cora, Praktiker, Baumax, Mediamarkt etc.); the town is a destination for consumer tourism.
- ◆ The town has the institutional background required for interregional co-operation (DKMT office, Romanian Consulate, Institute of Italian Culture, Institute of French Culture, Austrian and Turkish Honorary Consuls etc.).
- ◆ A centre for higher education, a base for information technology and biotechnology.
- ◆ The University of Szeged has at its disposal nearly one hundred hectares of easily accessible, useable land awaiting infrastructure development.

(b) Weaknesses

- ◆ The town is in the borderlands. The disruption of earlier (pre-Trianon) economic ties within its natural region. Lack of formerly existing railway lines (Transylvania-Great Hungarian Plain-Transdanubia, Great Hungarian Plain-Bácska-Fiume).
- ◆ Lack of transport infrastructure: lack of motorway between Kiskunfélegyháza and the southern borders, outdated Cegléd-Szeged railway line, grassy runway at the airport, cumbersome accessibility to the port both from roads and the river.
- ◆ Unused natural geographical potential for transport: role as junction in the traffic between the north-south Tisza valley and east-west Maros valley.
- ◆ Unnecessary through traffic in town (lack of network of bypass roads).
- ◆ Deficiencies in the town's transport system (lack of a third road-rail bridge across the River Tisza, western motorway to bypass the town).
- ◆ Unused potential for shipping (cargo shipping on the Tisza is negligible).
- ◆ Outdated industrial structure of the town, lack of high-tech production sectors.
- ◆ Devaluation of local light and food industry sectors that form the basis of the local economy.
- ◆ Low export orientation among firms.
- ◆ Lack of co-operation between the three towns of Szeged, Hódmezővásárhely and Makó.
- ◆ Lack of state-of-the-art warehousing capacity.
- ◆ Little useable land for development at the disposal of the local government.
- ◆ Social tensions arising from economic restructuring, undermining of social security.
- ◆ Environmental pollution due to through road traffic (air, noise, vibration pollution).

(c) Opportunities

- ◆ Increasing the investment appeal of the town (working out a system of incentives).
- ◆ Attracting multinational firms to establish their operations here (facilitating their integration into interregional co-operative efforts).
- ◆ Facilitating cross-border mobility (linking the southern and eastern parts of the natural region to existing economic and social processes).
- ◆ Exploiting the regional development advantages arising from borderland relationships (tapping central budgetary and EU resources).
- ◆ Joining the work of international organisations: Danube-Körös-Maros-Tisza Euroregion, Balkans Stability Pact.
- ◆ Developing joint applications (Phare CBC, Interreg III Cadses etc.).
- ◆ Exploiting the interethnic cohesion of the peoples (minorities) situated in the territory of the DKMT Euroregion.
- ◆ Fitting into the hierarchical European town network (establishing characteristic features).
- ◆ Establishing harmonic co-operation with localities within the economic region (developing complementary activities).
- ◆ Establishing juncture points for the various means of transport; improving accessibility: constructing the transversal motorway (M9, southern motorway) would enhance the appeal of the region and facilitate the town's integration into the domestic intercity mainstream, establishing the Szeged-Temesvár railway link (Great Hungarian Plain-Bánság), the Szeged-Szabadka-Bácsalmás-Baja railway line, declaring the Tisza waterway of international concern and rendering it navigable.
- ◆ Exploiting the comparative advantages arising from the town's geographical location, boosting its capacity to attract labour from areas across the border, mainly in the fields of agriculture and processing, consumer tourism, and spa tourism; it is a financial hub for a region that transcends the border (being at the southeastern border of the eurozone).
- ◆ Fulfilling the role of a secondary gateway town (owing to the nearby three borders it can act as a centre, a starting point and a destination): a complex system of storing, loading, transport, product assembly, packing as well as logistics services with a higher added value has to be realised in the intersection of transport infrastructures.

(d) Threats

- ◆ The domestic policy situation of neighbouring countries. Following the regime change, the frameworks of nation states were formed in a highly centralised way. Their economy and their democratic institutional structure require significant improvement to meet the demands of integration.
- ◆ Competition of logistical initiatives between domestic big towns and towns outside the borders.
- ◆ The powerlessness of the institutions of euroregional co-operation (anti-integration sentiments and policies coming to the fore in neighbouring countries).
- ◆ The emergence of secondary European areas due to the existence of the eurozone.
- ◆ The maintenance of certain limitations at the borders due to derogations (free movement of labour, compulsory visa regime etc.).
- ◆ Stagnation of the region's economy.
- ◆ The development of infrastructure - due to the immense demand for improvement and lack of capital - will lag behind.
- ◆ The country is experiencing a domestic brain drain in the direction of Budapest and Western Hungary.
- ◆ Rising unemployment, increasing social inequality and marginalisation are all becoming a common phenomenon in many areas.
- ◆ Growing gaps in development in various parts of the country. The west-east slope of development is growing steeper; the provinces and regions are suffering from a flight of capital.

On the basis of the above, we can see that Szeged's role as a hub does not only depend on its geopolitical situation, but is also a function of the extent to which the town can live up to its role as part of an international corridor. The Szeged region must transform from a transit element of transport into a strong, powerful supply centre, where the railway station, airport, river port, logistical bases, combined terminals and local end points form a well-integrated system. The junction of these is the centre of gravity through which business development and regional development plans are realised, i.e. this is the direction in which such efforts can be made (Lengyel 2002, R. Mészáros 1998).

This shows that favourable economic and socio-geographical conditions can only represent a starting point for the role of regional centre. Szeged can only become a real regional centre if - through government assistance and co-operation based on the common interests of the town and its economic region - it is determined to create the conditions that are necessary for it to develop into a logistics centre.

13.3 The preconditions of Szeged becoming a logistics centre

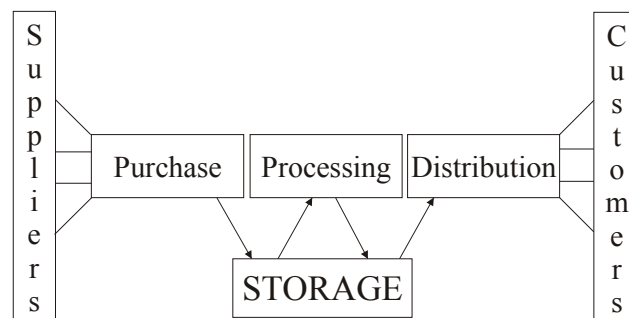
“Logistics is a science dealing with the flow, planning, organisation, management and control of materials, persons, energies and information within a system” (Prezenszki 2001: 13). Its task lies in supplying the above to the user in adequate quantity and quality at the right place and time.

If we apply this notion to the functioning of a town - Szeged, in this case - its vicinity and region, we need to devote a great deal of attention to the examination of the relatively limited possibilities of the flow of materials. And furthermore, beyond the increasingly free and self-regulating individuals moving between the logistical systems and passengers crossing the region to the movement of the ever more important information systems and information itself.

When examining the region, especially when analysing the role of the regional centre, besides the classical problems of logistics (transport of materials, packing and storing), special emphasis must be placed on those logistical questions which, in the course of their development, influence the working of the region with ever more definitive force (T. Mészáros 2002). What is of primary importance here is the transport of materials, flow of goods, the information and the accessibility of information governing the guided and arbitrary movement of persons; these are the decisive factors in the development of a region, Szeged in this case.

If we look at the correlation of the classical elements of the logistical approach, Purchase-Storage-Processing-Distribution-Consumption, these notions can be applied when examining configurations and reconfigurations (Figure 1). It is, however, proper to supplement them with elements that strengthen the economic projection of classical logistical processes and enrich the description of individual events. Such can be the examination of labour force, capital, commodities, the scope of movement of information and labour.

Figure 13.1 The classical elements of the logistical approach



A well articulated tendency could be discerned in the economic processes of recent years, especially among multinational manufacturing and trading companies that had entered Hungary, when the proportion of production itself and processing drastically decreased, whilst the proportion of storage and distribution increased compared to the former. This also means that the development of a logistical region in the future will greatly depend on whether it lies in the intersection of proper transport routes, whether there is a chance there for low investment but high efficiency storage, whether the region has the proper information processing capacity which will later make it absolutely unnecessary to move or store other logistical elements, which would increase costs.

In the working principle of Szeged as a regional centre, traffic and several well-known forms of transport play a key role, being those elements of logistical assets which through “space-span” and “time-span” appear integrated in the whole process both in the field of transport and information transfer (R. Mészáros 1999).

Time-span has another comprehensible meaning, when information transfer processes take place without time limits by bridging over the limitations of space, and simultaneously with transport production and perhaps packing and storage taking place. This, then, projects the prospective that modern production organisation techniques and trade techniques continuously merge in each other resulting in a uniform transport system owing to the speeding up of the most valuable logistical asset: information flow.

In the relationship between a region employing the results of logistics and its centre, the following goals should be realised in the given configuration:

- ◆ the persons taking part in the process,
- ◆ the desired goods and services,
- ◆ in the necessary point of time,
- ◆ to the proper geographical location,
- ◆ in the desired quantity and quality,
- ◆ with agreed parity,
- ◆ at the lowest possible cost,
- ◆ causing the least possible environmental pollution.

To this we have to add the aspect of sustainability. “Growth is sustainable if it satisfies present demands, but does not impair the chances of future generations to satisfy their demands in the future” (Enyedi 2002: 21). If, on top of all this, we apply the same principles to people, to the movement of labour in a given town or region, or to the flow of information at a time when options for information transfer are rather limited, we can grasp the picture of future development and growth in the case of Szeged, too.

Complex logistics cannot be narrowed down to the problem of transport and storage; it should much rather be spread to the complex entirety of the contact points

of special fields including such aspects as technical conditions, information technology options, environmental questions, as well as economic, social and geographical factors as well.

As for the logistical system Felföldi László's statement is authoritative, according to which system is a togetherness of well-organised sets of determined function elements carefully chosen to reach a certain goal or to fulfil a certain task, and also of the relationship existing between them (Felföldi 1983).

The environment of a system always comprises whatever is available outside the given system, be it a production unit (company) or a town, but it is always related to them in some way: the flow of labour (commuters), networks of energy supply systems, road networks, and transport facilities.

The relationships between system and surroundings can be described as input and output type relationships, from which, in the case of Szeged, the following can be found on the input side:

- ◆ workers commuting to work,
- ◆ students commuting to school/college/university,
- ◆ tourists arriving for relaxation etc.,
- ◆ transport vehicles approaching the system, carrying goods and people,
- ◆ energy supplies approaching the system (electricity, gas etc.),
- ◆ information entering from the outside, facilitating the operation of the system (traffic reports, weather forecasts etc.).

In addition to the washback effects of the former, we can find the following on the output side:

- ◆ harmful emissions,
- ◆ as a result of processing: semi-prepared or ready-made products,
- ◆ intellectual products and information that have been "processed".

As for the input and output sides of a town, several kinds of groupings are conceivable. Here we have to point out that the population of the town and its vicinity possesses movement that can be influenced by the elements of logistics. There are, however movements, which cannot be influenced; these either increase or decrease the predictability or uncertainty of the operation of the logistical system (e.g. rush hour, peak through traffic with its attendant environmental pollution etc.).

Factors defining the level of logistical services considering the logistical system of a town, in this case Szeged, include the following:

- ◆ The length of transport times between the town and the systems related to it, including both passenger and freight transport, considering all forms in the given configuration.

- ◆ The correspondence of logistical services to market demands, namely the question of availability of the service networks and infrastructure facilities necessary for the way of life desired by the population.
- ◆ The flexibility of services, their adaptability to the needs of the market, or their rigidity.
- ◆ The quality and adjustment of services in response to demand.
- ◆ The level of public safety, safe living conditions.
- ◆ The level of healthcare etc.
- ◆ The satisfaction of cultural needs.
- ◆ Education at the secondary and tertiary levels.

The configuration of logistical systems - taking into consideration economic and socio-geographical factors - are a given and can only be partially modified. In the logistical systems, persons, materials and information all flow between determined points, which by themselves can function as a logistical system (Halászné Sipos 1998). With regard to their configuration, logistical systems are made up of focal points and networks linking those focal points. These focal points may be mines, factories, agricultural facilities and warehouses whereas the networks that connect them may be natural links such as rivers and seas; they may, however, also be artificial ones such as roads, railway lines etc.

With regard to their structure, focal points facilitating the transport of people as well as the flow of goods and information can be systems consisting of one stage or several stages and they can be receptive or distributive or a combination of all of these. In the flow of information, the spread of Internet links has brought about revolutionary changes in the relationships between logistical IT systems.

It is of importance that a town like Szeged which aims to become a regional hub should possess as many elements of the above logistical system as possible, and should rank as high as possible in the hierarchy of logistical systems.

The given economic, social and geographical situation determines what features of the given logistical system it can possess and what it cannot (e.g. sea and river port, railway station, airport, raw material supply, etc.).

The constraints of natural conditions can be removed in the course of development, when the entrepreneurs of a town establish virtual companies, which - as regards their organisation - only have an upper layer of executives with most of their work done by outsourcing; what they themselves do is co-ordinate the contractors' work, satisfy the demands of the market and organise the economic processes. In the case of virtual companies there is only an information flow, and as a result of the output the income is divided between those taking part; in a virtual company the flow of personal and material processes is not present.

13.4 Szeged as a future “gateway” model

The spread of the concept of trade centres functioning as sites for logistics, reception and distribution has conceived and developed a new model, the so-called “gateway” practice. The “gates” between systems built upon each other in multi-stage, structurally cohesive logistical systems serve as junctions that offer a chance for a further regrouping and diversification of persons and goods.

The use of gateways is justified for several reasons, e.g. the transfer between the individual logistical systems is not automatic, goods must be identified and distributed based on quantity and quality; also in some cases the performance of administrative tasks needs to be checked. To mention practical examples, duty-free areas and customs facilities both qualify as gateways, of which we can find several examples in Szeged, too.

The proportion of the flow, transformation and classification of goods and energy resources is noticeably higher in an industrial region than in one whose main activity is connected to tourism and a beneficial utilisation of leisure. In the latter type, human mobility with all its accompanying services is higher than in the former.

In Szeged both these processes are present. The main difference is that while goods themselves do not define the direction of their motion, in the case of human transport - due to human self-determination - beyond the satisfaction of the need for comfort and other services, the accessibility of information, news and smooth flow of people’s transport must be guaranteed.

A special task of logistics is to optimise the process, to remove bottlenecks and remedy occasional stoppages. Unlike the flow of goods, the demand for “storage” is different here, and the birth of “human commissioning” together with the dynamic growth of tourism poses a great challenge for Szeged.

The supply of goods can be optimised with the help of a one-stage or multi-stage gateway model, both in the operation of the region and the regional centre.

With the single-stage model the region’s big industries are supplied with resources and energy from the trade centre, while in the case of the multi-stage model further sub-centres as well as reception and distribution sites are inserted in the process to satisfy the demands of a broader market. If we wish to describe the process down to the level of consumers, the number of stages increases, since the sub-centres are further connected with distribution centres until the particular commodity reaches the final step, the consumer, through for example a city centre specialist shop. Such a detailed analysis of the flow of goods is performed by urban logistics.

During the evolution of regional logistics a special socio-economic and geographical state is represented by the configuration system, in which the organic region and its centre are divided by a borderline. The reconfiguration of the Szeged economic region in the period after Trianon provides a good example of this.

In Szeged, large trade and energy distribution centres are available; in addition, the town has been a hub for combination transport for years. The town being a logistics centre, in older days goods were loaded from ships onto carts and then onto trains. Today RO-LA represents large-volume combination transport, but there is railway-highway and even road-airway combined passenger transport, too.

According to related statistical data, established transport directions, capacity and load are the following:

- ◆ 4 trains per day depart for WELS, Austria,
- ◆ 4 trains per day arrive from WELS,
- ◆ every other day 1 train leaves for SEZANA, Italy,
- ◆ every other day 1 train arrives from SEZANA, Italy,
- ◆ each train can carry up to 18-22 lorries, with escort.

Logistical contacts reaching beyond the border can accelerate passenger and freight transport to a great extent. On the analogy of virtual companies, virtual trade and logistics centres can also be formed, whose activity is aimed at evaluating the flow of data instead of the flow of goods. Being in possession of the proper information, the manufacturer no longer owns the goods he physically keeps in his warehouse; instead, owner's rights are exercised by the buyer. In this way the goods reach the consumer without actually being in the logistics centre.

In like manner, without direct contact with the goods, the logistics centre can decide on the fate of goods which are already in the process of being shipped in such cases, when the task is the transport and distribution of large quantities of homogeneous raw materials (e.g. corn, crude oil etc.). Exploiting its infrastructure advantages and its supremacy in information technology, Szeged can fulfil the role of a logistics centre in the context of its onetime organic economic region, not all of which will form part of the EU as of May 2004.

In Szeged, the supply of goods of the multinational trading companies established in the town exceeds the demand of the population of the town and the vicinity (Lengyel and Deák 2002). Their stores located here reckoned on the demand not only of the inhabitants of the town, but also those of the vicinity, and in particular those of the areas across the borders. The directions of consumer tourism have changed several times over the past few decades. According to the tendencies noticeable today it can be predicted that following EU accession the shopping demands of the areas beyond the border will be consolidated for many years to come.

13.5 Summary

Szeged's future in logistics is determined by EU accession and by the town's economic region, whose advantages and disadvantages have been reassessed in the

past century time and time again owing to the town's borderland position. For the town implementation of the development project is inevitable, the final objective of which is to create a trading and logistical hub, which will become the centre of transport routes, service networks, financial and commercial processes and information technology and telecommunications networks. Its role as a centre needs to be enhanced in the areas of education and research, as—due to their geographic locations—neither Temesvár nor Újvidék has educational and research facilities comparable to Szeged's.

References

- Enyedi, Gy. 2000: *Magyarország település-környezete (Hungary's Settlement-Environment)*. Hungarian Academy of Sciences, Budapest.
- Enyedi, Gy. 2002: A fenntarthatóság értelmezése (The Meaning of Sustainability). In Abonyiné Palotás, J. and Becsei, J. and Kovács, Cs. (eds): *A magyar társadalomföldrajzi kutatás gondolatvilága (Ideas on Hungarian Social Geographic Research)*. Szegedi Tudományegyetem Gazdaság- és Társadalomföldrajz Tanszék, Szeged: 21-26
- Felföldi, L. 1983: *Anyagmozgatási folyamatok tervezése I. rész (Planning Transport Procedures. Part One)*. Tankönyvkiadó, Budapest.
- Halászné Sípos, E. 1998: *Logisztika – szolgáltatások, versenyképesség (Logistics – services, competitiveness)*. Logisztikai Fejlesztési Központ, Magyar Világ, Budapest.
- Horváth Gy. 2001: *Európai regionális politika (European Regional Policy)*. Dialóg Campus, Budapest - Pécs.
- Lengyel, I. and Rechnitzer, J. 2000: A városok versenyképességéről. In Horváth, Gy. and Rechnitzer, J. (eds): *Magyarország területi szerkezete és folyamatai az ezredfordulón*. MTA RKK, Pécs: 130-152
- Lengyel, I. 2002: The Competitiveness of Hungarian Regions. In Varga, A. and Szerb, L. (eds): *Innovation, Entrepreneurship, Regions and Economic Development: International Experiences and Hungarian Challenges*. University of Pécs Press, Pécs: 235-246
- Lengyel, I. and Deák, Sz. 2002: The features of regional competitiveness in Hungary, especially at the Hungarian-Rumanian border. In Falnita, E. (ed) *Economics and Management of Transformation*. Mirton, Timisoara: 719-730
- Mészáros, R. 1999: A megye fejlődésének lehetőségei és korlátai (Opportunities and limits of Csongrád county development). Mészáros, R. (ed): *Csongrád megye. Helyzetkép az ezredfordulón (The Csongrád County. Situation at the Millenium)*. Csongrád Megyei Kereskedelmi és Iparkamara, Szeged: 445-449

- Mészáros, R. 1998: Geographical and Historical Implications of the Development of a Hungarian City. In Barlow, M. and Lengyel, I. and Welch, R. (eds): *Local Development and Public Administration in Transition*. JATEPress, Szeged: 134-141
- Mészáros, T. 2002: *A stratégia jövője, a jövő stratégiája*. AULA, Budapest.
- RDP 1999: *The Regional Development Programme of the Csongrád County*. Centre for Regional Studies of HAS, Békéscsaba.
- Prezenszki J. 2001 *Logisztika I-II. (Logistics I- II.)*. Budapesti Műszaki Egyetem Mérnöktovábbképző Intézet, Budapest.
- PSP 2001: *Programs of the Széchenyi Project in Szeged*. Strategic Office, Szeged
- SPER 2001: *The Study Project of the Szeged Economic Region of Szeged*. Strategic Office, Szeged.
- Rechnitzer, J. 2000: *The Features of Transition of Hungary's Regional System*. Discussion papers No. 32., Centre for Regional Studies of the Hungarian Academy of Sciences, Pécs.
- Tóth, J. and Golobics, P. 2002: A nemzetközi regionális együttműködés egyes elméleti kérdései (Certain theoretical questions of international regional co-operation). In Abonyiné Palotás, J. and Becsei, J. and Kovács, Cs. (eds): *A magyar társadalomföldrajzi kutatás gondolatvilága (Ideas on Hungarian Social Geographic Research)*. Szegedi Tudományegyetem Gazdaság- és Társadalomföldrajz Tanszék, Szeged: 149-161