

## Strategic coupling on the European periphery: A case study of a small Hungarian town

### *Stratégiai összekapcsolódás az európai periférián: egy magyarországi kisváros esettanulmánya*

ERNŐ MOLNÁR, FEYROUZ AHLAM SAIDI,  
KATALIN SZABÓ

**Ernő MOLNÁR:** assistant professor, Department of Social Geography and Regional Development, University of Debrecen; Egyetem tér 1., H-4032 Debrecen, Hungary; molnar.erno@science.unideb.hu; <https://orcid.org/0000-0001-8157-4222>

**Feyrouz Ahlam SAIDI:** PhD student, Department of Social Geography and Regional Development, University of Debrecen; Egyetem tér 1., H-4032 Debrecen, Hungary; saidi.ahlam@science.unideb.hu; <https://orcid.org/0000-0002-5165-3373>

**Katalin SZABÓ:** MSc student, Department of Social Geography and Regional Development, University of Debrecen; Egyetem tér 1., H-4032 Debrecen, Hungary; katalinszabo1997@gmail.com; <https://orcid.org/0000-0002-3129-1539>

**KEYWORDS:** global production networks; regional assets/institutions; strategic coupling; small towns

**ABSTRACT:** The FDI-based economic development policies in East-Central Europe and the strategies of transnational firms seeking cost-efficient production locations close to the main markets of the EU have led during the last decades to the integration of the region into different global/regional production networks, mainly in the form of locations for industrial production. While the intensity of re-industrialization largely determines economic growth and spatial socioeconomic inequalities outside metropolitan regions, the long-term success of this model, which tends to result in a dual economy, dependent development, and the 'middle-income trap', has been challenged. According to the GPN literature, which comprises the main theoretical basis of our research, the means of integration is the key to understanding the potential outcomes of this economic model. The process seems to depend on the quality of global-local interactions based on enterprise strategies and multi-level regional assets and agency.

Our article focuses on making a comparative analysis of two transnational companies in a small peripheral town and uses the concept of strategic coupling as the analytical framework for the interpretation of the global-local interactions and their developmental outcomes. Based on secondary and primary sources, we examine the key assets and actors in the local environment, follow the development (upgrading trajectories) of subsidiaries, and analyse the dimensions and depth of their local/regional socioeconomic integration. We contribute to the special issue's main objectives through our case study that reveals strategic coupling dynamics and quality and discusses the chance of more advantageous developmental outcomes in a peripheral location with limited and diminishing local (human) assets.

**MOLNÁR Ernő:** adjunktus, Debreceni Egyetem, Társadalomföldrajzi és Területfejlesztési Tanszék; 4032 Debrecen, Egyetem tér 1.; molnar.erno@science.unideb.hu; <https://orcid.org/0000-0001-8157-4222>



**SAIDI Feyrouz Ahlam:** PhD hallgató, Debreceni Egyetem, Társadalomföldrajzi és Területfejlesztési Tanszék; 4032 Debrecen, Egyetem tér 1.; saidi.ahlam@science.unideb.hu; <https://orcid.org/0000-0002-5165-3373>

**SZABÓ Katalin:** MSc hallgató, Debreceni Egyetem, Társadalomföldrajzi és Területfejlesztési Tanszék; 4032 Debrecen, Egyetem tér 1.; katalinszabo1997@gmail.com; <https://orcid.org/0000-0002-3129-1539>

**KULCSSZAVAK:** globális termelési hálózatok; regionális adottságok/intézmények; stratégiai összekapcsolódás; kisvárosok

**ABSZTRAKT:** A külföldi működőtőkére alapozott kelet-közép-európai gazdaságfejlesztési politikák és a transznacionális vállalatoknak az EU fő piacaihoz közeli, költséghatékony gyártóhelyek keresésére irányuló stratégiai az elmúlt évtizedekben a régió globális/regionális termelési hálózatokba történő integrálódásához, ipari gyártó funkciójának erősödéséhez vezettek. Miközben az újraiparosítás intenzitása nagyban meghatározza a nagyvárosi régiókon kívüli térségek gazdasági növekedését és társadalmi-gazdasági egyenlőtlenségeit, többen megkérdőjelezik a duális gazdaság, a függő fejlődés és a közepes jövedelem csapdája irányába mutató modell hosszú távú sikerességét. A globális termelési hálózatokról született, kutatásunk elméleti alapját képező szakirodalom szerint az integráció mikéntjének vizsgálata a kulcs ahhoz, hogy megértsük e gazdasági modell potenciális eredményeit. Úgy látszik, hogy a folyamat a globális-lokális interakciók minőségétől függ: ezek egyszerre alapulnak a vállalati stratégiákra és a különböző szintekhez kötődő "regionális" adottságokra és szereplőkre.

Cikkünk egy periférikus kisváros két transznacionális vállalatának összehasonlító elemzésére fókuszál: a globális-lokális kapcsolatok és azok helyi fejlődésre gyakorolt hatásainak értelmezésére elemzési keretként a stratégiai összekapcsolódás koncepcióját használjuk. Másodlagos és elsődleges forrásokra épülő munkánkban a helyi környezet adottságait és kulcsszereplőit vizsgáljuk, követjük a leányvállalatok fejlődését (feljebb lépési pályáit), illetve elemezzük lokális/regionális társadalmi-gazdasági integrációjuk dimenzióit és mélységét. Esettanulmányunk a tematikus szám céljaihoz azzal járul hozzá, hogy feltárja a stratégiai összekapcsolódás dinamikáját és minőségét, illetve körüljárja a fejlesztéspolitikai szempontból előnyösebb kimenetek elérésének esélyeit korlátozott és zsugorodó helyi humán erőforrásokkal rendelkező periférikus környezetben.

## Introduction

The FDI-based economic development policies in East-Central Europe and the strategies of transnational firms seeking cost-efficient production locations close to the main markets of the EU have led during the last decades to the integration of the region into different global or regional networks, mainly in the form of locations for industrial production. While the intensity of re-industrialization largely determines economic growth and spatial socioeconomic inequalities outside metropolitan regions, the long-term success of this model, which tends to result in a dual economy, dependent development, and the 'middle-income trap', has been challenged (Gál 2019; Gerőcs 2021; Lux 2017). According to the Global Production Network literature, which comprises the main theoretical basis of our research, the means of integration is the key to understanding the potential outcomes of this economic model. The process seems to depend on the quality of global-local interactions based on enterprise strategies and multi-level regional assets and agency (Coe et al. 2004). Unlike the Hungarian literature that

uses the concept of spatial embedding and examines companies in larger cities, our article focuses on a small peripheral town and uses the concept of strategic coupling as an analytical framework for the interpretation of the global-local interactions and their developmental outcomes. With this spatial focus we aim to reveal the difficulties and questions associated with the GPN integration of peripheral locations while pointing out the neglect and underestimated importance of small towns in a Hungarian and European research and development policy context (Grossmann, Mallach 2021).

The work is based on secondary and primary sources. Beside the relevant literature, corporate documents, local and sectoral economic development documents, and different statistical data were used. In order to collect primary information, semi-structured interviews were carried out with the key representatives of the examined subsidiaries, with the leader of the local firm that organizes industrial park development, with the mayor of the town, and – because of the specialties of the sector – with the executive director of the Hungarian Seed Association. It is important to emphasize that our strongly focused in-depth case study has its own limitations too: based on the experience of only one town, our findings may only be generalised within limits.

The article is structured into five parts. (1) First, we give a short description of the conceptual framework, highlighting the usefulness of ‘strategic coupling’ in our research project. (2) The second part outlines the ‘specialties’ of small towns’ regional assets that create the opportunities and limitations for strategic coupling with different GPNs. (3) In the third part, we locate the small town under study within the Hungarian urban network and give a short overview of the dynamic and structural features of the local socioeconomic environment. (4) The fourth part contains the comparative analysis of two transnational companies that are key players in the local economy. We examine the key assets and actors of the local environment, follow the development of these subsidiaries from their location choice through the different steps of upgrading until present times, and analyse the diversity and depth of their local socioeconomic integration. (5) The fifth part focuses on the discussion. We evaluate the dynamics and quality of strategic coupling in the cases of the chosen companies and discuss the chance for creating strategic coupling(s) with more advantageous developmental outcomes in small towns organizing rural space.

### **The concept of strategic coupling**

The idea of strategic coupling is rooted in Global Production Network research, which interprets the spatially fragmented production systems of the global economy as an "organizational arrangement comprising interconnected economic and noneconomic actors coordinated by a global lead firm and producing goods

or services across multiple geographic locations for worldwide markets" (Yeung, Coe 2015, 32.). Strategic coupling describes and interprets the interaction between global production networks and regional economies that influences the nature of GPN integration regarding value creation, transformation, and capture (Coe, Yeung 2019). Regional socioeconomic development can be interpreted as the successful interaction of the global and regional based on complementarity: the region should possess the locational factors needed by global production networks, and integration into global production networks should offer economic and social advantages for the region (Coe et al. 2004). Strategic coupling is intentional: it can be defined as cooperation based on the common interests of agents who are not working for the same strategic goals (MacKinnon 2012). The concept has a dynamic character: we may speak about a temporary coalition that evolves, along with continuously changing conditions on both sides. Strategic coupling is not a unidirectional process: in the case of weakening complementarity (common interests), decoupling can happen, while cases of recoupling show that decoupling can be temporary too (Horner 2014).

On the 'regional side' of strategic coupling, assets and institutions create an interdependent relationship. Agile regional institutions play an important role in the development of regional assets (infrastructure, human resources, industrial linkages, etc.) according to the needs of GPN actors, while more attractive regional assets increase the bargaining power of regional institutions relative to other GPN actors and in this way shape the conditions of GPN integration (Coe et al. 2004). However, 'regional' has a multi-level character in reality: these assets are shaped by the interplay of local, regional, national, and supranational institutions responsible for the regulation and development of socioeconomic factors. Consequently, from a spatial point of view, strategic coupling is created between horizontal firm networks and vertical governance structures (Dawley, MacKinnon, Pollock 2019). There are different power asymmetries in these relations. Relatively footloose GPN actors have structural power over localised institutional actors, which support their successful lobbying for more advantageous regulatory and infrastructural conditions (MacKinnon 2012). However, institutional actors have different latitudes depending on governance structures (federal vs. unitarian, centralised vs. decentralised) (Coe et al. 2004; Dawley, MacKinnon, Pollock 2019). While decentralization and subsidiarity generally increase the importance of regional and local actors (including enterprises and their organizations, state and private institutions, and non-governmental organizations), the central state seems to play a key role in creating or loosening strategic coupling, especially in (semi) peripheral economies (Horner 2014; Yeung 2015).

Creating and maintaining (advantageous) strategic couplings is not an easy task. Regional assets are time- and place-specific and their evolution has a path-dependent character, which means that they can be shaped according to the needs of GPN actors through relatively large investments over a longer time. On

the other hand, the strategic coupling of regional and extraregional assets can contribute to the creation of new development paths in the local economy (MacKinnon et al. 2019). Although strategic coupling is based on (asymmetric) interdependency between the global and the regional, its regional developmental outcomes (share of the region in GPN value creation, transformation and capture, and likelihood of decoupling) can be very different. According to the typology of Yeung (2015), also based on the work of MacKinnon (2012) and Horner (2014), strategic coupling within the host regions of subsidiaries and local suppliers of GPN lead firms can be functional or structural (Table 1). ‘International partnerships’ and ‘production platforms’ can be described by different GPN dynamics, coupling mechanisms, regional trajectories, and likelihoods of decoupling. Based on Table 1, the challenge for a GPN-integrated (semi) peripheral economy is clearly identifiable: how to avoid or exceed structural coupling(s) and ensure a more secure and fruitful form of GPN integration?

Despite the adaptability of the concept, there are no published case studies in Hungary based on the conceptual background of strategic coupling. The interaction of transnational companies (global production networks) and regional economies is more frequently discussed within the framework of the corporate embedding process and embeddedness that is rooted in institutional

Table 1.: Key features of functional and structural strategic coupling  
*A funkcionális és strukturális stratégiai összekapcsolódás főbb jellemzői*

	<i>International partnership (functional)</i>	<i>Production platforms (structural)</i>
GPN dynamics	Cost-capability efficiency Vertical specialization Faster time to market	Lower production costs International outsourcing, sub-contracting Enabling transport technologies
Coupling mechanisms	Transnational communities: transactional links, business intelligence, market knowledge Industrial organization: rise of strategic partners and global localization of TNCs State/institutions: explicit role, policy-led: upgrading labour, technology, infrastructure	Transnational communities: managerial competence and intermediaries Industrial organization: small- and medium-sized enterprises and new industrial spaces State/institutions: explicit role, but limited influence through fiscal/financial incentives
Regional trajectories	Distinctive regional assets and some regional autonomy	Generic regional assets and external dependency
Likelihood of decoupling	Medium	High

Source: Yeung 2015

economic geography (Józsa 2016; Lengyel 2021; Rechnitzer 2018). Acknowledging the results and value of this research, the concept of strategic coupling offers in our opinion the possibility of a more critical approach: while corporate embedding is always regarded as a positive process, the actual developmental outcomes of strategic coupling depend on its character. Another research approach involving global-local interactions that is relevant to our case study deals with the structural effects of foreign direct investment in Hungary. Based on evolutionary economic geography, in line with the above-described path-creation potential of strategic coupling it focuses on the question of relatedness in local economic diversification (Elekes, Boschma, Lengyel 2019).

### **Regional assets and institutions in a small town**

From the point of view of creating strategic couplings between global production networks and regional assets in a small town, local specialties are important distinctive features. Taking into consideration the differences between larger cities and small towns, the smaller size and the lack of agglomeration economies can be regarded as a determining factor which limits the mechanism of matching, sharing, and learning (static and dynamic agglomeration effects – Lengyel 2021). A small local labour market makes matches between labour demand and supply less likely. The sharing of inputs (infrastructure, suppliers, etc.) in the production process may not be typical in a small town. Further, there are fewer people working in close proximity who can learn from each other: larger cities usually produce more ideas and innovations than smaller ones (EC, UN Habitat 2016). The lack of (urbanization) agglomeration economies is manifested in a deficit of critical masses and/or – in the case of strong local specialization – in an absence of economic diversity (van Heur 2010; Lux 2013). Small towns are more likely to rely on a single economic sector, and they may lack the infrastructure and human capital necessary to address the economic and social challenges they face (Pender, Marré, Reeder 2012).

However, small size can be counterbalanced by proximity to other cities: towns can benefit from ‘borrowed size’. However, geographical closeness is not the only factor which should be taken into consideration: there are different non-spatial forms of proximity that relativise the significance of the size and spatial position of these settlements. According to this approach, local development trajectories are based on a combination of ‘local buzz’ and ‘global pipelines’, of which the latter may be established, for instance, by multinational firms seeking a location in these towns (Crescenzi, Iammarino 2017). Some authors have distinguished agglomerated, networked and autonomous/isolated towns in Europe based on their spatial positions and network connections and sought a correlation between their geography and dynamics. Their results show

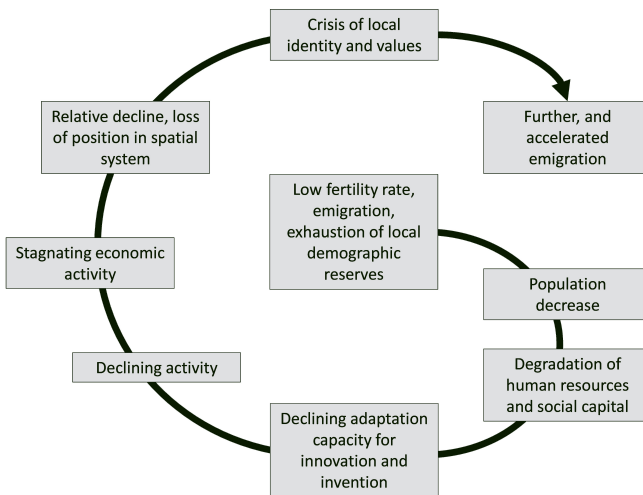
that isolated small and medium-sized towns with relatively low flows of commuters to other centres tend to decline in terms of (working) population and service functions (Servillo, Atkinson, Hamdouch 2017). In this way, size is not the only influential factor: there is a large diversity of small towns that includes dynamic places that capture the advantages of strategic coupling between local and extralocal factors.

According to Atkinson (2019), regional context matters, but does not necessarily determine the development or decline of small towns. He emphasizes another point: towns need support from higher-level (EU, national, and regional) authorities, which presumes that they are able to engage with multi-level governance structures. On the other hand, the local ‘capacity to act’ is important too: towns should possess appropriate institutional structures and competences in order to develop innovative forms of local governance. This factor also appears in the broader concept of dynamic localised capabilities “defined as tangible and intangible assets embodied in people, firms and institutions as well as in multiple relationships between them in a particular place” (Gwosdz, Domanski, Bilska-Wodecka 2020, 126.). These thoughts are in line with the multi-level interpretation of regional assets and institutions of the strategic coupling concept, and locate local agents in a matrix between regional determinism and territorial autonomy (Servillo, Atkinson, Hamdouch 2017). While regional context has a major influence on the dynamics of the SMSTs (Smith 2017), their differentiated strategic capacity to autonomously steer their development trajectories can result in diverse local consequences (Hamdouch, Demaziere, Banovac 2017). The degree of territorial autonomy depends on the distribution of competences and resources between the state and sub-national authorities. In some cases, local authorities have important regulatory competences (traffic management and local public transport, building regulations and urban planning, social services). In other cases, competences that are relevant to economic development are shared by central and intermediate levels of government. This situation necessitates the implementation of collaborative strategies across the different levels in order to develop the relevant assets/services (Servillo et al. 2014).

From the point of view of our Hungarian case study, the importance of the changing power situation between the central and local state cannot be overemphasized. Hungary may be located as among those EU Member States in which local autonomy has been spectacularly weakened over the last three decades and remains on a relatively low level (Dijkstra 2017). During the ‘sneaking centralisation’ of the 1990s and 2000s, municipalities had relatively large autonomy and influence over local institutions and community, but they were underfinanced and faced capacity problems. There was a deficit of cooperative spirit within the settlements and no durable development-based coalitions were established with internal and external actors (Pálné Kovács 2021). However, ‘open and systematic centralisation’ after 2010 re-regulated municipal finance and competences, set

up a hierarchical institutional system to control local processes and mediate political power, and also made local municipalities increasingly powerless through a series of reforms of the local political system. As a consequence, local resources (labour market, education, and training, infrastructure development and land use) have been placed under central governmental control (Nagy et al. 2021). While the local economic development function of municipalities due to the loss of other important competences has appreciated, their ability to shape local assets within the multi-level mix of institutions has largely decreased and local ‘capacity to act’ has become more dependent on political lobby power.

Figure 1.: The vicious circle of shrinking small towns  
*A kisvárosok zsugorodásának ördögi köre*



Source: Pirisi, Trócsányi 2015

Furthermore, the (quantitative) demographic decline and (qualitative) selective demographic erosion characteristic of most Hungarian mid-level centres outside larger agglomerations, which is mostly in line with the European experience (EC, UN Habitat 2016; Servillo et al. 2014), is of special relevance from the point of view of our small peripheral town. Due to rapid population loss and ageing, one of the most important assets of these towns has deteriorated, which can be regarded as both cause and consequence of their economic crises (Figure 1). The interference of demography with economy results in changing commuting patterns: smaller towns became more reliant on daily labour-force mobility, with a mostly negative balance outside the agglomerations. While they became more dependent on the labour force that commutes from neighbouring villages and similar small towns because of a shrinking population, there is increasingly significant outward commuting from smaller towns to larger cities generated by the mismatch of local labour force demand and supply. This latter tendency



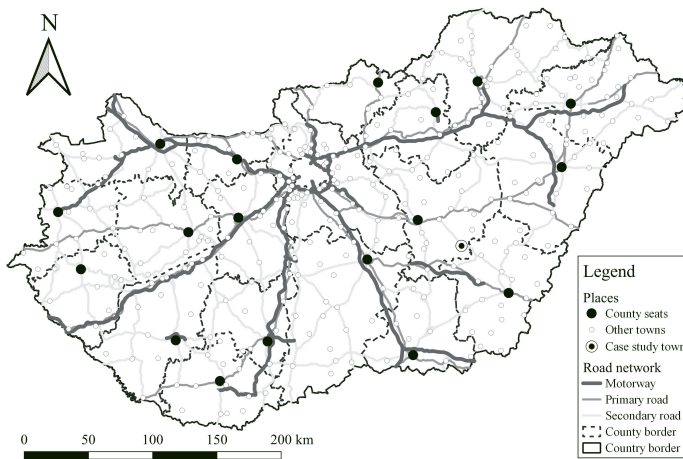
partly explains the increasing migration losses (Pirisi, Kiss, Máté 2016). The chance of creating successful strategic coupling tends to decrease due to the erosion of regional (human) assets. In this way, shrinkage limits the creation of new development paths based on FDI that could create more radical structural change in local economies than local entrepreneurship (Crescenzi, Iammarino 2017; MacKinnon et al. 2019).

### **A small shrinking town in the Hungarian urban network**

Smaller towns play an important role in the Hungarian settlement network. In 2022, there are 348 cities and towns, as legally defined, while the population of 329 towns does not reach 50,000, 324 towns do not have county rights, and 257 towns are not part of agglomerations around larger cities (they can be evaluated as mid-level centres). This latter group of towns represented more than 8% of all settlements and accounted for 24% of the total population in 2020, making up a monocentric settlement network with just one real metropolitan region at the country's geographical centre, and in international comparison mainly mid-sized larger cities in the countryside (Csomós 2015). However, smaller towns are diversified regarding size, function, hierarchical position, and the dynamics and development level of socioeconomic factors (Beluszky, Sikos T. 2020).

The small town under investigation, Mezőtúr, is located in the less dynamic eastern part of Hungary, outside the agglomerations of larger cities (Figure 2). The town has good railway accessibility, but relatively poor road connections. Among the 348 legal cities and towns, it is ranked eighty-second based on population (15,935) and in ninety-third place based on local business tax revenues (854,775 thousand HUF) in 2019. Taking the 257 non-agglomeration towns into consideration, it is listed in thirty-ninth place for population and fiftieth for local business tax. While its relative position in terms of population is getting worse, calculated economic potential seems to have slightly strengthened during the last decade (Molnár 2021). The town and its microregion have better socioeconomic indices (e.g., settlement economic power, deprivation, objective well-being, LeaRn index) than is typical of the underdeveloped eastern part of the county (Koós 2015; Nagy, Koós 2015; Péntes 2014; Péntes, Demeter 2021; Teperics, Szilágyiné Czimre, Márton 2016). However, triadic competitiveness indices that focus on economic performance and integrate the issues of productivity, employment, and demography show the durable and complex disadvantages of the town in national comparison (Nemes Nagy 2004; Péntes 2015). During the last three decades, an above-average annual population loss of more than eight persons per thousand has been registered, reinforced by a natural decrease and negative migration balance too (Kovács et al. 2021). Our shrinking (and ageing) town is accordingly a typical representative of the above-

Figure 2.: Geographical position of the case-study town  
 Az esettanulmány kisváros földrajzi helyzete



Source: authors' construction

described small Hungarian towns that have faced demographic crisis since the turn of the millennium.

The town has a relatively long history (medieval urban development can be dated back to the fourteenth century), and recently – despite the decline in population since WWII – it has been one of the three functionally well-developed secondary centres of Jász-Nagykun-Szolnok county. Mezőtúr is categorized as an "institutional town" (Pirisi 2009, 322.) or a (declining) "microregional centre with complete functions" (Kovács et al. 2021, 122.). Without any doubt, with the closing down of the local army base in the 1990s and the loss of agricultural higher education at the end of the 2000s the town lost two important functions which contributed to its shrinkage and weakened its position within the urban hierarchy (Forray, Kozma 2016; Nagy et al. 2016). The significance of this latter change can be clearly observed in the results of two analyses that reveal the differences in innovation capacity within the Hungarian urban network. While Mezőtúr was categorized among the 46 centres with significant innovation capacity "possessing some elements and institutions of renewal" in the 2000s (Rechnitzer, Csizmadia, Grosz 2004, 138.), a later analysis in the 2010s – despite using the same methodology – identified the settlement as among 94 towns with an "under average development level" (Rechnitzer, Páthy, Berkes 2014, 123.).

Beside tertiary activities – export sectors – traditional agriculture and manufacturing rooted in socialist industrialization play important roles in the local economy. Local agriculture is based on the heritage of two collective farms and a state firm from the socialist era. In 2020, there were 74 agricultural

enterprises registered in the town, of which four firms could be regarded (at least potentially) as medium-sized enterprises based both on employment and turnover. They produce mostly primary commodities (cereals, industrial and feed crops, live animals, and livestock products), while local food manufacturing capacity – despite ambitious development plans after WWII (Sebők 2009) and some recent investments into the manufacturing of traditional rice products (Szabó 2020) – are quite underdeveloped. The socialist industrialization of the town was moderate and resulted in an organizationally and sectorally diversified structure based on predominantly medium-sized enterprises operating in the textile, clothing, footwear and ceramics industries, as well as brickmaking, metalworking, and machinery (Gombás 1982). Beside the dependent branch plants and cooperatives typical of the industrialized periphery (Kiss 2003), our town had a headquarter function too, inasmuch as it organized the brick industry for the whole region. This diversified structure proved advantageous after the change of regime: the decline of crisis-hit sectors was at least partially compensated by the stability or growth of others. Due to industrial restructuring based on local/domestic entrepreneurs and the moderate participation of FDI, metalworking and the manufacture of electronic products and electrical equipment became dominant (Molnár 2016; Molnár, Lengyel 2015).

Mezőtúr is located in a disadvantaged and underdeveloped region and takes part in the FDI-based economic restructuring process with a huge delay and moderate intensity. The local economy is integrated into global (or regional) production networks mostly via local suppliers instead of foreign subsidiaries. Despite this fact, there are two important subsidiaries that play a key role in the local economy: a manufacturing subsidiary of a medium-sized German electronic company, and a seed-producing branch plant of a global agrobusiness firm from Switzerland. Creating advantageous and durable strategic couplings with the two companies based on the limited local conditions seems to be a key issue for local economic development.

### **Case study – a tale of two plants**

The key assets constituting the base of strategic couplings were different in the case of the two firms. The electronic company (C-1) had business relations with a local firm (KONTAKTA) that had a similar profile (production of electromechanical components, and switches for industrial users) even in the socialist era. After the change of regime, based on earlier cooperation and personal linkages, a joint venture was founded by this German firm and three key persons from this local company to exploit advantageous local production facilities due to the cheap labour force. The agrobusiness firm (C-2), through a greenfield investment at the turn of the millennium (thus significantly later), wanted to exploit the favourable hybrid

maize seed production endowment of the Hungarian Great Plain, which is – beside some areas of France, Italy, Spain, and the Lower Danube – one of the few regions in Europe with the appropriate natural basis for this form of cultivation. The agents of the company sought a location with developed infrastructure in the centre of this Hungarian production region because the organization of the raw material production and the manufacturing needed geographical proximity to fields in order to manage the production network flexibly and reduce transport costs.

In shaping the key assets, the institutions and policies of the Hungarian state played an important role. In the case of the electronic company, the relevant industrial base and its international relations were a result of the state-led (deconcentrated) industrialization of the 1970s, while its restructuring process after the change of regime was supported by a neoliberal FDI-based development policy coupled with the general aim of EU accession that made Hungary a part of the European common market. Hungary is traditionally one of the major locations of electronic industry in Central and Eastern Europe. Beside privatization, lots of greenfield investments contributed to its growth during the post-socialist transition, and despite its shrinkage due to some significant relocations after 2008 (Hunya, Sass 2013), the electronics or ICT industry is treated as one of the key sectors of the Hungarian economy in policy documents (Irinyi Terv 2016; OFTK 2014). Accordingly, after moderate growth of two decades interrupted by short periods of decline in revenue and employment in 2004-2005 and in 2008-2009, the local subsidiary grew spectacularly in the 2010s. Lower production costs due to a reduction in taxation, currency devaluation, and flexible employment conditions contributed to the decrease in the cost-capability ratio, making the plant more attractive for the relocation of different activities. The largest capacity extension of the firm in 2013-2014 was supported by European Regional Development Fund in one of the most underdeveloped regions of the EU. The investment received special attention from the central government during the election campaign of 2014: not only did the local member of parliament take part in the opening ceremony but also the prime minister and the state secretary commanding the office of the prime minister (MTI 2014).

The role of the state can also be identified in the case of the agrobusiness company. While the firm functioned under the same general socioeconomic conditions as the earlier discussed industrial company, it has also enjoyed special endowments associated with its profile. Hungary has a long tradition (and significant knowledge) of seed production and is one of the ten largest exporters in the global seed market (ISF 2019). The global embeddedness of the Hungarian seed sector can be dated back to the interwar period of the twentieth century. It was further developed during the socialist era when the country was a prominent seed producer in the Eastern bloc (specialized first of all in hybrid maize) and in the maintenance of a regulatory framework for the seed business,

making possible the parallel exploitation of Eastern and Western relations. The 'latent' global integration of the Hungarian seed sector turned into rapid restructuring and the enhancement of the activity of transnational companies in the 1990s (Hullan 2004; Turi 2004). One of the predecessors of C-2, Ciba-Geigy, was an important player in this process. Two key consequences of the socialist era also created favourable conditions for seed production after the post-socialist collapse of agriculture: the irrigation systems inherited from the past are of key importance in the success of stable seed production, and the large-scale producers which remained after organizational restructuring mean that seed production can be isolated from other forms of cultivation. In comparison to France (Hungary's largest European competitor in terms of hybrid maize seed production), the former fact is important because of the ability to (partially) offset the impact of the dryer continental climate of the Carpathian Basin, and the latter offers some advantages in relation to the more fragmented French organisational structure. Similarly to the electronic industry, the agrofood sector is also handled as a strategic sector, wherein seed production is one of the most promising fields of specialization (MÉK 2017; VÁS 2013) – according to the responsible minister, a “crown jewel” of Hungarian agriculture (MTI 2020).

Beside the factors determined by the policies of the Hungarian central government, several local institutional agents played a role in creating strategic couplings. The electronic company rented a workshop in the school plant of the – at that time still existing – local agricultural college. The municipality started to play a more active role when the firm bought an underused, partially brownfield area within the town after the mid-1990s and built up a new plant. The local government sold further real estate around the plant (for relatively low prices) to ensure room for its extension, modified the master development plan according to the investor's interests, and carried out some infrastructural investment by developing the road network. It took part as a mediator in the organization of the local education of electronics technicians in the mid-2010s (the second attempt, because the first collaboration between the company and the other high school had been interrupted). However, education was mainly the business of one of the local vocational schools (more exactly, of the vocational training organization controlling this school after the reduction in municipalities' competences in education).

In the case of the greenfield investment made by the global agrobusiness company in 2001, the municipality played a much more proactive role through the establishment and infrastructural development of the local industrial park. Although there was no external mediator between the investor and the local government during the negotiations, the infrastructural development was supported by the Ministry of Economy and by the development fund of Jász-Nagykun-Szolnok county. Flexibility in administration (which cannot be disassociated from the fact that a major proportion of the responsible organizations were available locally due

to the developed local institutional background) and rapid infrastructural development based on external financial support played a key role in the success. The town obtained the investment through a competition that encompassed more than five locations across the Hungarian Great Plain. The interests of the company were seriously taken into consideration during the further developments of the industrial park and at the end of the 2000s the local government built a bikeway between the town and the park (based on EU funds) to make the commuting of employees more convenient.

Both companies have a spectacular development path characterized by different upgrading trajectories. The C-1 company moved from the labour-intensive assembly of simple electromechanical components to the production of electronic components (including some final products) based on new technological competences which were combined by entering into new production networks (household appliances, ICT products, automotive parts, industrial robotics, healthcare electronics). This product and intersectoral upgrading went hand in hand with the 100% takeover of the company by the German partner and were based on the resources and strong control of the mother company: production was always first implemented in Germany, relocation was decided on and carried out by headquarters and supported by intrafirm training activities. Hungarian production is organized in the framework of subcontracting, with limited functions for the local plant beyond production. This is the largest and the only low-cost production facility of the company in Europe, with stabilized employment over of 500 people in the mid-2010s. Growing capacity and some more demanding products (with integrated services) generated a demand for labour force and greater supporting capacity with some special skills. This growth and structural change made it reasonable to organize vocational training locally and to take part as a contract partner in the dual education of electrical engineers at the University of Debrecen, located 100 kilometres from the town. In contrast to its process of social embedding, the company does not have a significant local industrial supplier base. This situation may be explained by several reasons, but first of all the limited local leeway for decision making (i.e. the non-autonomy of the subsidiary) and the patriotic strategy of the mother company, which prefers German inputs. Although the German mother company was sold to a global investment management firm registered in the US but with Canadian majority ownership in 2020, the exact local effects of this change have still not been seen. However, the development of the Hungarian subsidiary seems to have continued: new investments in production technology and logistics capacity are being carried out in 2022 to strengthen pre-existing functions (HIPA 2022). Recently, Mezőtúr has been one of about fifty locations (including 25 small and medium-sized towns outside the agglomerations of the larger cities) in Hungary where the electronic industry is represented by a large-scale employer.

Table 2.: Key features of the companies under examination  
*A vizsgált vállalkozások főbb jellemzői*

	C-1	C-2
Profile	Manufacturing electromechanical and electronic components (or end products) for several industries in Europe	Organizing the production of hybrid maize seed, manufacturing, R&D lab, logistics in Eastern Europe
Location factors	Business relations with a local industrial company, cheap production	Centre of a large seed-production area, local infrastructure for the new plant
Nature of entrance	1991. Joint venture in a brownfield site, later a new plant, and since 2003 100% German / Canadian ownership	2001. Greenfield investment in the local industrial park (first settler), 100% Swiss / Chinese ownership
Organization	Large subsidiary (25% of global employment), the only one cheap production location in Europe	Largest European seed production site of the company, one of the Hungarian locations (also Budapest, Gödöllő, Ócsa)
Developmental outcome	Largest local employer, jobs for underqualified persons, moderate supporter of local community	Largest local business taxpayer, higher prestige jobs, extensive supplier network, supporter of local community

*Source: authors' construction*

C-2's plant was founded as a producer of hybrid maize seeds: beside capacity extension, functional upgrading can be observed. Although the global company has similar production facilities in Europe (in Italy and Turkey), the plant in Mezőtúr is the largest seed producer within its European organization and one of the three largest hybrid maize producers in Hungary. Beyond hybrid maize production, the local plant has some regional logistic and distribution functions related to other products (sunflower, rapeseed, wheat, and barley). Beside a quality testing lab, there is a new laboratory that has supported the selection process for new hybrid maize varieties since 2020. Due to its R&D functions that involve about 30 of the 70 non-seasonal workplaces, a large part of the labour force have higher qualifications. Because of the lower (and strongly seasonal) labour force demand and the higher wages, the agrobusiness firm was later confronted with a shortage of human resources: it only started to organize local education at the end of the 2010s, which was interrupted by the coronavirus pandemic. While the seasonal workforce is recruited in the neighbouring settlements, the higher-prestige workplaces are partly filled by individuals from similar small towns within a 50-kilometre radius. The firm has an extensive supplier network: it is connected with about 40-60 hybrid maize seed producers predominantly within a 100-kilometre radius that cultivate a total of about 4-5

thousand hectares. Besides managing production, there is also ‘cooperation’ with suppliers with multiple year contracts which focuses on sowing machines and irrigation. The reason for this is that the sowing process determines the success of production, and the water demand of cultivation is large. The supplier base is relatively stable: about 10% have changed over the last 20 years. Beside the orders given to some service providers, C-2 firm has a local pallet supplier too.

While the C-1 (electronic) company fills about 8-10% of all jobs with employees from the small town, the C-2 (agrobusiness) firm paid more than 15% of all local business tax in 2019. However, beyond the (direct and indirect) jobs and incomes and the local taxes, both of the companies support the local community. C-1 has limited possibilities for sponsoring because of its strong external control, but alongside some individual grants it supports the sports activities of its employees by buying them season tickets for the local swimming hall or financing their teams in the local football championship. C-2 is the main financier of local sport (and was so before the recent sport-financing system based on corporate tax allowances was set up), but the company supports schools and healthcare institutions, different events and initiatives too. According to our interviewees from the municipality, the names of the companies can be used as marketing tools for promoting the investment location.

## Discussion

The strategies of foreign enterprises exploiting local resources complement national and local strategies that target economic development through FDI-based GPN integration. The *global crisis strengthened this complementarity*, similarly to in other industries (Pavlínek 2020; Szalavetz 2016). The reduction of cost-capability ratios by production relocation to low-cost sites was appreciated by transnational firms under conditions of enhanced competition, while on the regional side neoliberal responses to the economic crisis and policies targeting the development of the production economy – described as a peripheral variant of the ‘*German neomercantile model*’ (Czirfusz et al. 2019; Gerőcs 2021) – increased the chance of strategic coupling. In *local investment strategy*, domestic and foreign enterprises seeking new locations, local small and medium-sized enterprises, and the local population are identified as main target groups, and the electronic industry and agrobusiness belong to the five focal sectors (Megakom 2017). However, there is a ‘*missing link*’ between general national development priorities and local ambitions, while the importance of this link because of the changing relations between central and local state and the takeover of control over local resources by the central government (Nagy et al. 2021) significantly grew during the 2010s and determines much more the success of any bargaining process (Figure 3, A). Which spatial priorities does the national government have, and



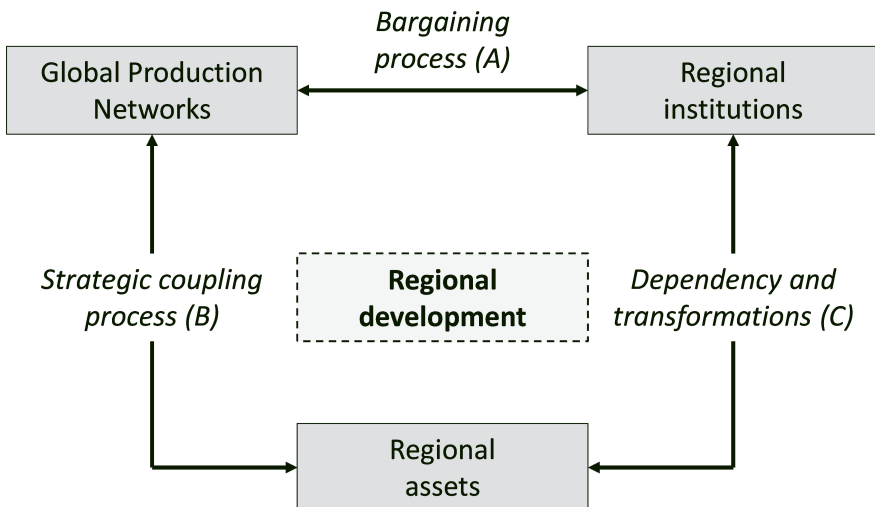
what kind of support can the municipality channel from above to achieve its own economic development goals? Although the Hungarian National Spatial Development Plan had a concept about the future of spatial development and urban networks (OFTK 2014), the reality does not seem to be so obvious. The development of small towns as a (communicated) priority is diminished between the 'Modern Cities' and the 'Modern Villages' programs, while national support mechanisms have become strongly dependent on the lobby power of local members of parliament who became important 'institutions', representing territorial interests (Pálné Kovács 2021). In this context, the position of our case study town is questionable: the 'strong people' of politics are not from this region, and the former local member of parliament is subject to criminal proceedings, which has forced the ruling party to introduce a new candidate – the mayor of Mezőtúr – for the parliamentary elections in 2022.

The upgrading dynamics of the GPN firms contribute to the *renewal of strategic couplings* from time to time (Figure 3, B). Although decoupling processes cannot be observed yet, the *lack of human resources* (in terms of both quantity and quality) and therefore the danger of growing cost-capability ratios creates a challenge for both enterprises and erodes the above-discussed complementarity. According to the mayor, approximately 500 employees of all qualifications are missing from the local economy, while the number of locally employed people was less than 6,000 according to the latest census in 2011. Both the representatives of the companies and the municipality who were interviewed agreed that the main causes of this shortage are the low capacity of the town to keep or attract younger people, on the one hand, and the deficiencies of the local educational background on the other. The latter problem has dual roots: there is a systemic shortage which tends to be strengthened by the centralization of Hungarian education, while on the other hand the limited offer of a smaller town regarding local education and training should be mentioned. Because of its primary location factor (a relatively cheap labour force), the electronics company is much more exposed to the labour force problem. In order to *maintain a relatively advantageous cost-capability ratio* despite growing local labour costs, the establishment of a new low-cost location in Eastern Europe and the reorganization of the intrafirm division of labour that focuses the role of the Hungarian plant on higher value-added activities cannot be excluded. Of course, there are also other options: automatization, or the employment of guest workers may also be taken into consideration. However, developing '*human strategies*' through cooperation with local (regional) educational facilities seems to be of special importance in small shrinking towns (Pirisi, Trócsányi 2015). In the move of the electronics company to *locally establish a new vocational training program* (without any prior tradition) based partly on 'imported' teachers from the county seat, we can see one answer to the general problem of such small towns that typically have no chance to win back younger people who earlier left these settlements. Beside the

changing educational offer, the growing number of participants in *adult education* shows the adaptation efforts of regional institutions to shape key assets and improve the bargaining position in respect of GPN firms. In the case of the agrobusiness firm, the *irrigation infrastructure* of the production area of hybrid maize seed seems to be the Achilles heel of the regional assets: it is not just production growth but also adaptation to the future effects of climate change that make this factor important (MÉK 2017).

The *interdependence of assets and institutions* (Figure 3, C) at a local level has been weakened, which can be clearly seen in human issues. Developing an educational background that meets the needs of companies – a key factor in creating and maintaining (more advantageous) strategic couplings – is a major priority of the municipality (ITS Konzorcium 2015). However, due to the *reorganization of the education system* the key high schools are under the control of the regional vocational training centre that has its headquarters in a neighbouring town. The local government – similarly to the labour administration office which collects information about demand and supply – can only act as a mediator in human-resource development issues or contribute to institutional development by ensuring the availability of real estate. The *loss of the local agricultural college* is a notable and painful element of the changes of the last decades (Forray, Kozma 2016). Although the main profile of the college did not concern the human needs of the electronic or agrobusiness firm (it originally trained mechanical engineers for the large agricultural plants), its role as a shaper of the local socioeconomic environment and in strengthening the *culture*

Figure 3.: Model of global – regional interaction  
A globális – lokális kölcsönhatások modellje



Source: authors' construction based on Coe et al. 2004

*of learning and innovation* (especially in the agricultural-technical field) was mentioned by both companies. The firms depend on regional higher education offerings (University of Debrecen), while the agrobusiness company also appreciated the neighbouring agricultural colleges in Szolnok (relocated from Mezőtúr) and Szarvas. The town leaders see no real chance for re-establishing the college, and – in acknowledgment of its positive effects – ‘would not overemphasize’ the role of the school in solving local problems related to the need for a higher-qualified labour force. However, it can also be interpreted as a kind of adaptation that one part of the former agricultural college owned by the municipality was given to the regional vocational training centre to concentrate and modernize educational activities carried out in multiple locations in the town.

Both strategic couplings are *based on rather generic, easy-to-reproduce local assets*. According to the argumentation of Yeung (2015), as summarized in Table 1, the two investigated companies seem to represent a *mixture of structural and functional coupling*, whereby the case of the electronic company – based on our experience, as highlighted in Table 2 – can be regarded as more structural. The local presence of both *enterprises is positively evaluated* by municipality leaders. From the elements that the latter emphasize – including the ‘holy trinity’ of local product, local employment, and local tax-paying (which constitute the main goals of municipal economic development) – the realization of at least one element can be acknowledged through each of these strategic couplings. Both companies help to *increase the visibility of the town* not just to potential investors but also to a broader audience through news related to their activities. However, structural couplings may not contribute to the economic repositioning of the underdeveloped regions (small towns) in the long term, while the danger of decoupling continuously keeps local community and decision-makers under pressure (MacKinnon 2012). It would not be too wise to underestimate the reality of a decoupling scenario: as mentioned earlier, the relocation tendencies in the Hungarian electronics industry before and during the crisis may clearly be identified. Thus, *moving beyond structural couplings* and increasing the attractiveness of the town to better educated younger people (who are needed to promote higher-level strategic couplings) is the key issue. The situation is similar to that encountered in relation to the general challenges of (semi) peripheral economies, but the mechanisms that generate the above-discussed vicious circle are much stronger at the level of small shrinking towns, which are required to climb out of hole which is becoming increasingly deep.

### Summary

Based on the case study of the two foreign companies and using the analytical framework of strategic coupling we examined the *conditions of GPN integration of*

*the European periphery* from the point of view of a small shrinking town. We state that the potential success of a primarily FDI-based development policy is much more questionable in small shrinking towns where these subsidiaries are present less frequently, and the limited and diminishing local (human) assets and institutions make structural coupling more likely, while *moving beyond these structural deficiencies* may be more difficult than in larger agglomerations. For overcoming the contradiction between limited local assets and the perspectives of higher-level strategic coupling, *breaking the vicious circle* of shrinkage seems to be necessary.

On the other hand, according to the GPN literature and our empirical findings, creating higher-level strategic couplings is not just a question of regional assets, but enterprise strategies (especially in very asymmetrical hierarchical networks) play a key role too. For this reason, an *alternative economic development policy* that focuses more on local medium-sized companies and promotes diversification and avoids the structural limitations of FDI-based development (but creates new ones) seems to be reasonable. However, independent of the main focus (FDI vs. SMEs) of local economic development policy – taking centralization processes into consideration – at a national level, a more consistent and supportive external multi-level institutional environment and a *clearer vision about the future of the small towns* is needed.

In line with the literature, both companies show that *strategic coupling* can also be interpreted as a means of increasing the external connectivity of a region that may help with *obtaining additional resources* that increase the chance of overcoming the challenge of limited local assets and opening up the possibility for a more radical economic restructuring, *creating new development paths* (Crescenzi, Iammarino 2017; Elekes, Boschma, Lengyel 2019; MacKinnon et al. 2019). This experience may give hope to smaller towns, while it should be considered that the success of the process largely depends on *dynamic localised capabilities* that embrace not only economic background and institutional structures, but also the ‘soft’ *social and cultural characteristics* of the given place (Gwodz, Domanski, Biliska-Wodecka 2020), which makes the choice of idiographic case studies very reasonable.

## Acknowledgements

We would like to express our thanks to the interviewees, who helped us in the research, to the reviewers, who contributed to an improved version of the manuscript through their constructive suggestions and also to the guest editor of the issue, Erika Nagy, who organized the work and – beside the reviewers – gave us important inputs to the final version of the paper.

## References

- Atkinson, R. (2019): The Small Towns conundrum: What do we do about them? *Regional Statistics*, 2., 1–17. <https://doi.org/10.15196/RS090201>
- Beluszky P., Sikos T. (2020): *Városi szerepkör, városi rang*. Ludovika Egyetemi Kiadó, Budapest
- Coe, N. M., Hess, M., Yeung, H. W., Dicken, P., Henderson, J. (2004): "Globalizing" regional development: a global production network perspective. *Transactions of the Institute of British Geographers*, 4., 468–484. <https://doi.org/10.1111/j0020.2754.2004.00142.x>
- Coe, N. M., Yeung, H. W. (2019): Global production networks: mapping recent conceptual developments. *Journal of Economic Geography*, 4., 775–801. <https://doi.org/10.1093/jeg/lbz018>
- Crescenzi, R., Iammarino, S. (2017): Global investments and regional development trajectories: the missing links. *Regional Studies*, 1., 97–115. <https://doi.org/10.1080/00343404.2016.1262016>
- Czifrusz M., Ivanics Zs., Kovai C., Meszmann T. T. (2019): A magyarországi munkásság a hosszú lejtemenben. *Fordulat*, 2., 142–170.
- Csomós, Gy. (2015): The ranking of cities as centres of the Hungarian economy, 1992–2012. *Regional Statistics*, 1., 66–85. <https://doi.org/10.15196/RS05104>
- Dawley, S., MacKinnon, D., Pollock, R. (2019): Creating strategic couplings in global production networks: regional institutions and lead firm investment in the Humber region, UK. *Journal of Economic Geography*, 4., 853–872. <https://doi.org/10.1093/jeg/lbz004>
- Dijkstra, L. (2017): *My Region, My Europe, Our Future. Seventh report on economic, social and territorial cohesion*. European Commission, Brussels
- EC UN Habitat (2016): *The State of European Cities 2016. Cities leading the way to a better future*. Publications Office of the European Union, Luxembourg
- Elekes, Z., Boschma, R., Lengyel, B. (2019): Foreign-owned firms as agents of structural change in regions. *Regional Studies*, 11., 1603–1613. <https://doi.org/10.1080/00343404.2019.1596254>
- Forray R. K., Kozma T. (2016): Menekülés az iskolától. In: Forray R. K., Kozma T., Molnár E. (szerk.): *Mezőváros új szerepben*. HERA – HTSART – ÚMK, Budapest, 115–126.
- Gál Z. (2019): Az FDI szerepe a gazdasági növekedés és a beruházások területi differenciálódásában Magyarországon. *Közgazdasági Szemle*, 6., 653–686. <https://doi.org/10.18414/KSZ.2019.6.653>
- Gerőcs T. (2021): *Magyarország függő fejlődése. Függetlenség és felzárkózás globális történelmi perspektívában*. Helyzet Műhely Könyvek. Napvilág Kiadó, Budapest
- Gombás I. (1982): *Mezőtúr településföldrajza*. Mezőtúri Helytörténelmi Füzetek 3.
- Grossmann, K., Mallach, A. (2021): The small city in the urban system: complex pathways of growth and decline. *Geografiska Annaler: Series B, Human Geography*, 3., 169–175. <https://doi.org/10.1080/04353684.2021.1953280>
- Gwosdz, K., Domański, B., Bilska-Wodecka, E. (2020): Localised capabilities as an intermediating factor in the transition from an old to a new development path: The case of post-socialist industrial towns. *Moravian Geographical Reports*, 2., 124–135. <https://doi.org/10.2478/mgr-2020-0010>
- Hamdouch, A., Demaziere, C., Banovac, K. (2017): The socioeconomic profiles of small and medium-sized towns: insights from European case studies. *Tijdschrift voor Economische en Sociale Geografie*, 4., 456–471. <https://doi.org/10.1111/tesg.12254>
- HIPA (2022): *Bővítéssel válaszol a RAFI Hungaria és a Modine Hungaria a pandémia kihívásaira*. [https://hipa.hu/hu\\_HU/bovitessel-valaszol-a-rafi-hungaria-es-a-modine-hungaria-apanemia-kihivasaira](https://hipa.hu/hu_HU/bovitessel-valaszol-a-rafi-hungaria-es-a-modine-hungaria-apanemia-kihivasaira) (Download: 26.05.2022.)
- Horner, R. (2014): Strategic decoupling, recoupling and global production networks: India's pharmaceutical industry. *Journal of Economic Geography*, 6., 1117–1140. <https://doi.org/10.1093/jeg/lbt022>
- Hullan T. (2004): Hazai és nemzetközi vetőmagtermesztés helyzete. In: Lázár L., Izsáki Z. (szerk.): *Szántóföldi növények vetőmagtermesztése és kereskedelme*. Mezőgazdasági Kiadó, Budapest, 28–42.
- Hunya G., Sass M. (2013): Menekülés Keletre? Termelési tevékenységek relokációja Magyarországra és Magyarországról a válság idején. *Külgazdaság*, 9–10., 3–37.
- Irinyl Terv (2016). Nemzetgazdasági Minisztérium, Budapest

- ISF Exports of seed for sowing by country - Calendar year 2019. <https://worldseed.org/wp-content/uploads/2021/09/Export-2019.pdf> (Download: 04.10.2021.)
- ITS Konzorcium (2015): *Mezőtúr város településfejlesztési koncepciója*. Projekt azonosító: ÉAOP - 6.2.1 /13/K-2014-0002. Trenecon Cowi – Megakom Tanácsadó Iroda
- Józsa, V. (2016): Corporate embeddedness from a new perspective. *Contemporary Research on Organization Management and Administration*, 1., 2335–7959.
- Kiss J. P. (2003): Az alföldi városok fejlődésének adottságai az 1990-es évek új feltételrendszerében. In: Timár J., Velkey G. (szerk.): *Várossiker alföldi nézőpontból*. MTA RKK ATI – MTA Társadalomkutató Központ, Békéscsaba-Budapest, 39–54.
- Koós B. (2015): A szegénység és depriváció a magyar településállományban az ezredfordulót követően – avagy kísérlet a települési deprivációs index létrehozására. *Tér és Társadalom*, 1., 53–68. <https://doi.org/10.17649/TET.29.1.2681>
- Kovács Z., Beluszky P., Tóth G., Egedy T. (2021): Városok. In: *Magyarország Nemzeti Atlasza – Társadalom*. Csillagászati és Földtudományi Kutatóintézet, Földrajztudományi Intézet, Budapest, 116–127.
- Lengyel I. (2021): *Regionális és városgazdaságtan*. Szegedi Egyetemi Kiadó, Szeged
- Lux G. (2013): Kritikus tömeg alatt: a fejlesztési együttműködés lehetőségei a kisebb nagyvárosokban. *Tér és Társadalom*, 4., 52–74. <https://doi.org/10.17649/TET.27.4.2512>
- Lux G. (2017): *Újraiparosodás Közép-Európában*. Dialóg Campus, Budapest – Pécs
- MacKinnon, D. (2012): Beyond strategic coupling: reassessing the firm-region nexus in global production networks. *Journal of Economic Geography*, 1., 227–245. <https://doi.org/10.1093/jeg/lbr009>
- MacKinnon, D., Dawley, S., Pike, A., Cumbers, A. (2019): Rethinking Path Creation: A Geographical Political Economy Approach. *Economic Geography*, 2., 113–135. <https://doi.org/10.1080/00130095.2018.1498294>
- Megakom (2017): *Befektetésösztönzési Stratégia*. „Mezőtúri járási foglalkoztatási együttműködések”. TOP-5.1.2-15-JN1-2016-00007 azonosító számú projekt. Megakom Tanácsadó Iroda
- MÉK (2017): *Magyarország élelmiszergazdasági koncepciója 2017-2050*. Földművelésügyi Minisztérium, Budapest
- Molnár E. (2016): Gazdasági alapok és népességmegtartó képesség a 21. századi Mezőtúron. In: Forray R. K., Kozma T., Molnár E. (szerk.): *Mezőváros új szerepben*. HERA – HTSART – ÚMK, Budapest, 97–111.
- Molnár E. (2021): *Globális ipari termelési hálózatok és félperifériás felzárkózási kísérletek a magyarországi autóipar fejlődése tükrében*. Habilitációs értekezés, Debrecen
- Molnár E., Lengyel I. M. (2015): Újraiparosodás és útfüggőség: gondolatok a magyarországi ipar területi dinamikája kapcsán. *Tér és Társadalom*, 4., 42–59. <https://doi.org/10.17649/TET.29.4.2726>
- MTI (2014): *Orbán: elemi érdekünk, hogy munkahelyet hozó befektetők érkezzenek*. <https://hirado.hu/2014/03/18/orban-elemi-erdekunk-hogy-munkahelyet-hozo-befektetokerkezzenek/> (Download: 19.02.2022.)
- MTI (2020): *Átadták a Syngenta kukorica és napraforgó vetőmag-kutatóbázisát Mezőtúron*. <https://www.kormanyhivatal.hu/hu/jasz-nagykun-szolnok/hirek/atadtak-a-syngenta-kukorica-es-napraforgo-vetomag-kutatobazisat-mezoturon> (Download: 10.02.2021.)
- Nagy, E., Gajzágó, G., Mihály, M., Molnár, E. (2021): Crisis, institutional change and peripheral industrialization: Municipal-central state relations and changing dependencies in three old industrial towns of Hungary. *Applied Geography*, 136. <https://doi.org/10.1016/j.apgeog.2021.102576>
- Nagy G., Koós B. (2015): A jól-lét index fejlődése. In: Szirmai V. (szerk.): *A területi egyenlőtlenségektől a társadalmi jól-lét felé*. Kodolányi János Főiskola, Székesfehérvár, 47–65.
- Nagy G. és szerzőtársai (2016): Mezőtúr az alföldi városhálózatban – településfejlődési vázlat. In: Forray R. K., Kozma T., Molnár E. (szerk.): *Mezőváros új szerepben*. HERA – HTSART – ÚMK, Budapest, 73–96.
- Nemes Nagy J. (2004): Új kistérségek, új városok. Új versenyzők? In: Nemes Nagy J. (szerk.): *Térségi és települési növekedési pályák Magyarországon*. Regionális Tudományi Tanulmányok 9. ELTE Regionális Földrajzi Tanszék – MTA ELTE Regionális Tudományi Kutatócsoport, Budapest, 5–42.

- OFTK (2014): *Országos Fejlesztési és Területfejlesztési Koncepció*. Nemzetgazdasági Tervezési Hivatal, Budapest
- Pavlínek, P. (2020): Restructuring and internationalization of the European automotive industry. *Journal of Economic Geography*, 2., 509–541. <https://doi.org/10.1093/jeg/lby070>
- Pálné Kovács I. (2021): A centralizáció és a perifériák fejlődési esélyei. *Tér és Társadalom*, 4., 215–240. <https://doi.org/10.17649/TET.35.4.3372>
- Pender, J., Marré, A., Reeder, R. (2012): *Rural Wealth Creation Concepts, Strategies, and Measures*. USDA-ERS Economic Research Report No. 131. <https://doi.org/10.2139/SSRN.2027084>
- Pénzes J. (2014): *Periférikus térségek lehatárolása. Dilemmák és lehetőségek*. Didakt, Debrecen
- Pénzes J. (2015): A területi centrum-periféria viszonyok változása az Alföldön. In: Tésits R., Alpek B. L. (szerk.): *A mi geográfiánk - Tóth József emlékezete*. Publikon Kiadó, Pécs, 353–366.
- Pénzes, J., Demeter, G. (2021): Peripheral areas and their distinctive characteristics: The case of Hungary. *Moravian Geographical Reports*, 3., 217–230. <https://doi.org/10.2478/mgr-2021-0016>
- Pirisi G. (2009): Differenciálódó kisvárosaink. *Földrajzi Közlemények*, 3., 313–325.
- Pirisi G., Kiss B., Máté É. (2016): A kisvárosok szerepe a munkaerő-ingázásban. *Területi Statisztika*, 4., 415–437. <https://doi.org/10.15196/TS560404>
- Pirisi, G., Trócsányi, A. (2015): Shrinking small towns in Hungary: the factors behind the urban decline in "small scale". *Acta Geographica Universitatis Comenianae*, 2., 131–147.
- Rechnitzer J. (2018): Beágyazódás és a beágyazottság – Töprengések a vállalatok területi / városi integrációjáról. *Tér - Gazdaság - Ember*, 1., 25–41.
- Rechnitzer J., Csizmadia Z., Grosz A. (2004): A magyar városhálózat tudásalapú megújító képessége az ezredfordulón. *Tér és Társadalom*, 2., 117–156. <https://doi.org/10.17649/TET.18.2.949>
- Rechnitzer J., Páthy Á., Berkes J. (2014): A magyar városhálózat stabilitása és változása. *Tér és Társadalom*, 2., 105–127. <https://doi.org/10.17649/TET.28.2.2623>
- Sebők B. (2009): *Az Alföld iparosítása - Szolnok megye példáján (1950-1970)*. Doktori értekezés
- Servillo, L., Atkinson, R., Hamdouch, A. (2017): Small and medium-sized towns in Europe: conceptual, methodological and policy issues. *Tijdschrift voor Economische en Sociale Geografie*, 4., 365–379. <https://doi.org/10.1111/tesg.12252>
- Servillo, L., Atkinson, R., Smith, I., Russo, A., Sýkora, L., Demazière, C., Hamdouch, A. (2014): *TOWN. Small and medium sized towns in their functional territorial context*. ESPON & KU Leuven
- Smith, I. (2017): Demographic change in European towns 2001-2011: A cross-national multi-level analysis. *Tijdschrift voor Economische en Sociale Geografie*, 4., 424–437. <https://doi.org/10.1111/tesg.12255>
- Szabó K. (2020): *A Mezőtúri járás élelmiszergazdaságának területfejlesztési szempontú vizsgálata*. Szakdolgozat, Debreceni Egyetem
- Szalavetz, A. (2016): Global crisis and upgrading of MNCs' manufacturing subsidiaries: a case study of Hungary. *Central European Business Review*, 1., 37–44. <https://doi.org/10.18267/j.cebr.143>
- Teperics K., Szilágyiné Czimre, K., Márton S. (2016): A tanuló városok és régiók területi megjelenése és társadalmi-gazdasági mutatókkal való kapcsolata Magyarországon. *Educatio*, 2., 245–259.
- Turi J. (2004): A magyar vetőmagtermesztés történeti áttekintése. In: Bedő Z. (szerk.): *A vetőmag születése - A vetőmagtermesztés elmélete és gyakorlata*. Agroinform Kiadó, Budapest, 9–23.
- van Heur, B. (2010). Small cities and the geographical bias of creative industries research and policy. *Journal of Policy Research in Tourism, Leisure and Events*, 2., 189–192. <https://doi.org/10.1080/19407963.2010.482281>
- VÁS (2013): *Vetőmag Ágazati Stratégia*. Vetőmag Szövetség Szakmaközi Szervezet és TermékTanács, Budapest
- Yeung, H. W. (2015): Regional development in the global economy: A dynamic perspective of strategic coupling in global production networks. *Regional Science Policy & Practice*, 1., 1–24. <https://doi.org/10.1111/rsp3.12055>
- Yeung, H. W., Coe, N. M. (2015): Toward a Dynamic Theory of Global Production Networks. *Economic Geography*, 1., 29–58. <https://doi.org/10.1111/ecge.12063>