

THE ABSOLUTE SPECIALISATION OF HUNGARIAN INDUSTRY WITH REGARD TO REGIONAL EXPORT

LEVENTE KOMAREK

University of Szeged
Institute of Economics and Rural Development
H-6800 Hódmezővásárhely, Andrásy u. 15.
komarek@mgk.u-szeged.hu

ABSTRACT – The absolute specialisation of Hungarian industry with regard to regional export

In the European Union member states, including Hungary, the spatial and structural texture of industry transformed considerably during the past few years. We can encounter both spatial and sectoral winners and losers of this transformation. It occurred that the number of the employed in certain industrial sectors decreased, domestic and export sales occasionally dropped, and in case of other industrial sectors the opposite emerged. This raises the necessity of tests, with the help of which it can be determined whether there was any concentration increase or decrease in the spatial organization of industries that in recent years, and if the marked change in industrial specialization of the counties was characteristic.

To ensure that industrial changes of recent years (plot, structure) can be monitored, it is important to examine the spatial concentration of industries in Hungary and the industry specialization over time in each area. This study presents the development of the absolute spatial specialization of the Hungarian industry in the light of export sales.

Keywords: industry, specialization, Herfindahl index, export sales

INTRODUCTION

The spatial and structural texture of Hungarian industry is due to a long development dating back several decades. The spatial location of certain industries was influenced by several social-economical factors (natural-social-economical-political) in the past few decades resulting in a peculiar spatial industrial structure.

The examinations of the spatial concentration and of the sectoral specialisation of the regions have considerable history both in Hungarian and international professional literature (GREENWAY – HINE, 1991; AMITI, 1997; BRÜLHART, 1998). A great number of studies appeared concerning the territorial situation of Hungarian industry in the decades preceding the regime change, which focused on the micro and mezzo-levels examinations instead of macro levels (KÓRÓDI – MÁRTON, 1968; BARTKE – BORA – ILLÉS, 1971; ABONYINÉ ET AL. 1976; TATAI, 1984). The examination of the various industrial sectors received different attention. In most cases the research focused on food industry (Abonyiné, 1983; Gurzó, 1986), as well as on the issues of textile industry, machine industry and building material industry (BENCZE, 1962; ANTAL – FÜLÖP, 1973).

The examinations highlighted that the endowments and the production traditions of the various territories and regions were different from each other and consequently the spatial work distribution is rather different appearing particularly in the production profile of the certain territories. Therefore “specialisation is the most important process in becoming a region, which is resulted by the naturally not equal formulation and development of several production sectors (KRAJKÓ ET AL. 1969).

In the years following the regime change geographical location and the changes of industry once again became the focus of the research, since Hungarian industry has undergone significant changes. Our economic relations from one day to the next one become west oriented instead of having eastern orientation. This provided an opportunity that our country can be part of the global market and through that the part of the global economy. Consequently the market conditions, the production and distribution facilities changed, resulting in a completely new situation in the sectors of national economy, which meant new challenges in specialization, especially in the field of spatial specialization. In some sectors of the economy and industry sub-sectors the volume of production declined, the employment structure transformed, the production structure became irrational, the composition more heterogeneous and sometimes sales difficulties occurred.

As a result of these changes the examinations in the territorial situation and the structure of industry started again (ANTAL, 1993; BARTA, 2002; RÉDEI – JAKOBI – JENEY, 2002; HORVÁTH, 2002; BODNÁR – HORVÁTH, 2005; KISS, 2010; ABONYINÉ – KOMAREK, 2011). Both in Western Europe and in Hungary the quantitative examinations concerning the spatial concentration of industries and the specialization of the territories showed that spatial concentration took place in many industrial sectors in the 1980s and 1990s. The spatial concentration was associated with the specialization of the industrial activity of certain territories (regions, counties).

MATERIAL AND METHOD

There are several indices to measure the industrial specialisation of the counties (eg. Specialisation index, spatial specialisation index, Herfindahl-index, Theil-index). Out of the various indices I selected the Herfindahl index (absolute specialisation) for my research, as it is suitable for determining the spatial distribution of the industrial specialisation of the counties by their export trade.

Specialisation measuring:

Herfindahl index (absolute specialisation):

$$H_j^S = \sum_i (S_{ij}^S)^2$$

where:

i = industry

j = county

S_{ij}^S = j county i industry share from j county total export trade

The Herfindahl index value can be between 0 and 1. The higher the value of the absolute specialisation is, the higher the level of the absolute specialisation will be.

The data source for the research was the available data of industrial organizations situated in the counties provided by the Central Statistical Office (CSO = Central Statistical Office) The examined dates were the years of 1992, 1998, 2000 and 2008 due to the frequent changes of the TEÁOR (Tevékenységek Egységes Ágazati Osztályozási Rendszere = Single Classification of Industrial Activities) numbers. These data allow comparisons and conclusions concerning the export sales of industrial specialization in the counties.

RESULTS AND CONCLUSIONS

According to the calculations the following statements can be made. In 1992 a high index value was observed in case of Fejér, Borsod-Abaúj-Zemplén and Csongrád Counties. The high index value of Fejér County was due to the manufacturing of metallic raw material and metal processing products, while that of Borsod-Abaúj-Zemplén County was due to the chemical industry and in Csongrád County it was due to the food, drink, and tobacco production. Baranya, Somogy, Zala and Hajdú-Bihar Counties, among others, belonged to the ones with low index values. The reason for this was the lack of an industry in the given county, which could represent a significant proportion in the total export trade of the county, which means a more complex industrial export structure is characteristic, and also the decrease of the previously dominant food industry caused this lower index value (Figure 1.).

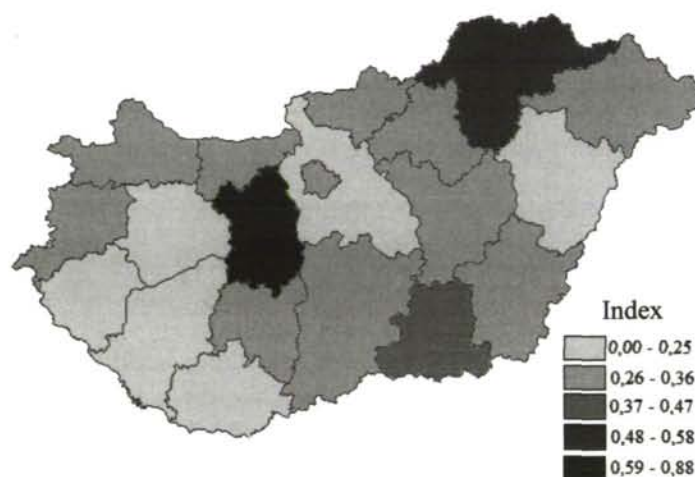


Figure 1. The spatial distribution of the absolute specialisation of the Hungarian industry by export trade (1992)

Edited: by the author from CSO data

In 1998 Borsod-Abaúj-Zemplén County kept its „leading position” in the export trade concerning the chemical industry. In the same year a high index value was observed in case of Fejér County as well, however the leading industrial sector changed here during the seven years: instead of the manufacturing of metallic raw material and metal processing products, which used to stand on the first place, the machine industry became dominant. The upgrading role of the machine industry is shown by the fact that the given industrial sector became dominant, regarding export trade, not only in Fejér County but also in numerous other Transdanubian counties (Győr-Moson-Sopron, Vas, Somogy, Komárom-Esztergom). In the background of the largest increase in absolute specialisation was mainly the machine industry (Heves, Jász-Nagykun-Szolnok, Komárom-Esztergom, Baranya, Vas, Somogy, Győr-Moson-Sopron) (Figure 2.). In addition to the above-mentioned counties, the index increased in Hajdú-Bihar County as well, which was due to the growing importance of food industry. At the same time, from 1992 to 1998 specialization decreased in three counties (Csongrád, Békés, Szabolcs-Szatmár-Bereg). This was caused by a decreasing dominance of the food industry.

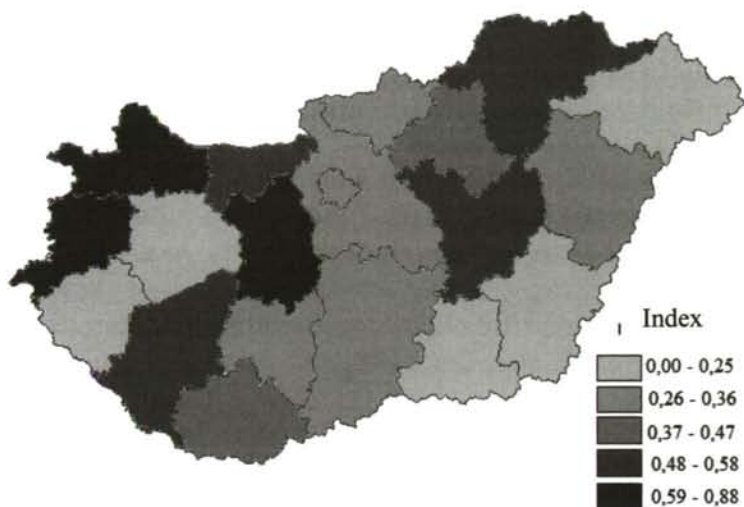


Figure 2. The spatial distribution of the absolute specialisation of the Hungarian industry by export trade (1998)

Edited: by the author from CSO data

In 2000 there was a high absolute specialisation in Fejér, Győr-Moson-Sopron, Komárom-Esztergom, Vas and Somogy counties. The high index values were due to the machine industry and the manufacturing of metallic raw material and metal processing products in Fejér County, while in Győr-Moson-Sopron, Komárom-Esztergom, Somogy and Vas counties they were due to the machine industry. It was found, that the export of machine industry in the above mentioned counties was over 80% (except for Vas county – 78.2%). This means the given counties are specialised in machine industry regarding export trade. Borsod-Abaúj-Zemplén County also must be mentioned, despite the fact that it does not belong to the group of the 5 counties with the highest indices. This county deserves special attention being the only one in 2000 specialised in chemical instead of machine industry (74% of the export of the county was given by the chemical industry).

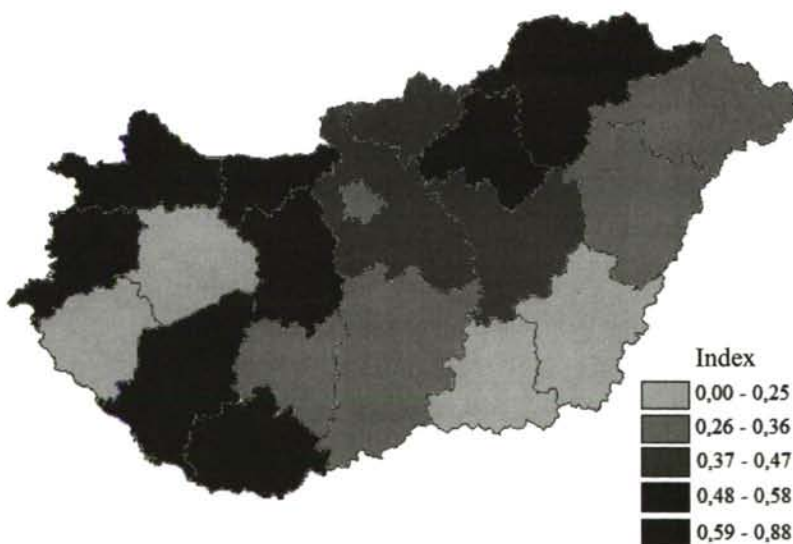


Figure 3. The spatial distribution of the absolute specialisation of the Hungarian industry by export trade (2000)

Edited: by the author from CSO data

The last counties in the rank of export trade are Zala, Veszprém, Csongrád and Békés. In their case there is no dominant industrial sector with a significant role in the export trade of the given county (Figure 3.). By 2008, when compared to 2000, there was a decrease in Fejér County (out of the previously mentioned), and in Győr-Moson-Sopron County a slight (0.01) decrease was observed (Figure 4.). Komárom-Esztergom County increased its advantage, which resulted in a 0.88 increase in the value of the index. This improvement was again due to the machine industry. The cause of the fall-back of Fejér County is the fact that the importance of the machine industry decreased, while the role of the manufacturing of metallic raw material and metal processing as well as the non-metallic mineral product manufacturing increased in export trade. In the given year Komárom-Esztergom County as well as Heves and Jász-Nagykun-Szolnok Counties proceeded in the rank. Both Heves and Jász-Nagykun-Szolnok Counties got a better position because of the increasing importance of the machine industry. In case of Heves County the proportion of machine industry export in 2000 was 70.9% of the total and it increased to 91.0% by 2008. In Jász-Nagykun-Szolnok County the proportion of machine industry export in 2000 was 64.8% of the total county export, while 82.5% in 2008. It reflects a rather strong specialisation in the field of machine industry. (Special attention should be devoted also to Borsod-Abaúj-Zemplén County in this very same year, where the export trade of chemical industry increased, at the same time the proportion within the industry of the county decreased, which can be explained by the dynamic expansion of the proportion of the machine industry). The lowest index values of the 2008 year belong to Szabolcs-Szatmár-Bereg, Tolna and Csongrád Counties. The reason for this can be the lack of a dominant industrial sector, i.e. a more versatile industrial export structure is characteristic.

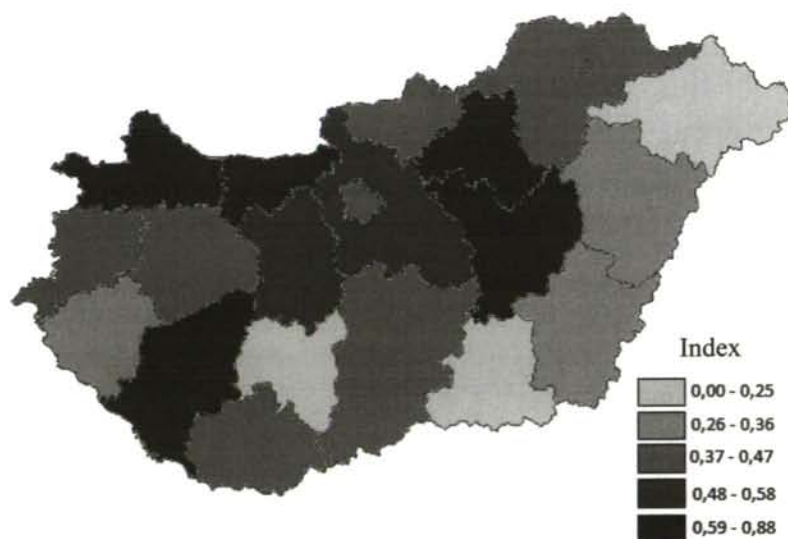


Figure 4. The spatial distribution of the absolute specialisation of the Hungarian industry by export trade (2008)

Edited: by the author from CSO data

To sum up, in the examined period the increase of the importance of the role of machine industry might be the cause of the increase of the Herfindahl index, among others between Fejér, Győr-Moson-Sopron, Vas, Komárom-Esztergom, Heves and Jász-Nagykun-Szolnok counties. The decrease of the index was resulted by the multi-polar export trade as well as

the ceasing dominance of food, drink and tobacco production among others between Csongrád, Békés and Szabolcs-Szatmár-Bereg counties.

REFERENCES

- ABONYI, GYNÉ. – KRAJKÓ, GY. – MÓRICZ F. (1976): Az ipar területi specializációjának mérése. Statisztikai Szemle. 54. évf. 10. sz. pp. 1003-1012.
- ABONYINÉ, PALOTÁS J. (1983): Csongrád megye élelmiszeriparáról. Földrajzi Közlemények. 31. évf. 1. sz. pp. 12-22.
- ABONYINÉ, PALOTÁS J. – KOMAREK, L. (2011): Összehasonlító vizsgálatok az ipari beruházások ágazati és területi szerkezetének alakulásáról. Comitatus. 21. évf. 203. sz. pp. 25-33.
- AMITI, M. (1997): Specialisation Patterns in Europe. Centre for Economic Performance, Discussion Paper No. 363, London School of Economics.
- ANTAL, Z. – FÜLÖP, S. (1973): A pamutipar fejlődése és területi elhelyezkedése 1960-1972 között. Földrajzi Értesítő. 22. évf. 4. sz. pp. 427-452.
- ANTAL, Z. (1993): Változások egyes iparágak termelésében és területi elhelyezkedésében. In. Jáki K. (szerk.): Aktuális problémák a földrajztanításban. Magazin Kiadó, Budapest. pp. 101-113.
- BARTA, GY. (2002): A magyar ipar területi folyamatai 1945-2000. Dialóg-Campus Kiadó, Budapest-Pécs. 272. p.
- BARTKE, I. – BORA, GY. – ILLÉS, I. (1971): Változatok az ipar távlati területi fejlesztéséhez. Hosszútávú Tervezés Területi Bizottsága, Budapest. 54. p.
- BENCZE, I. (1962): A magyar pamutipar területi elhelyezkedése és fejlesztésének egyes földrajzi problémái. Földrajzi Értesítő. 11. évf. 3. sz. pp. 337-362.
- BODNÁR, K. – HORVÁTH, J. (2005): Különböző állattenyésztési ágazatok tökeszükséglete. In. Jávor A. (szerk.): A mezőgazdaság tökeszükséglete és hatékonysága. DAC AVK, Debrecen. pp. 97-103.
- BRÜLHART, M. (1998): Trading places: Industrial Specialisation in the European Union. Journal of Common Market Studies.
- HORVÁTH, J. (2002): Specializált és diverzifikált ágazati struktúrák a tejtermelésben. In.: Jávor, A. – Berde, Cs. (szerk.): Innováció, a tudomány és a gyakorlat egysége az ezredforduló agráriumban. DE-MTK – SZIE-MKTK Debrecen. pp. 197-202.
- GREENWAY, D. – HINE, R. C. (1991): Intra-Industry Specialisation, Trade Expansion and Adjustment in the European Economic Space. Journal of Common Market Studies 29(6), 603-22.
- GURZÓ, I. (1986): Az Alföld cukorvertikumának területi fejlődése. Földrajzi Értesítő. 35. évf. 1-2. sz. pp. 113-146.
- KISS, É. (2010): Területi szerkezetváltás a magyar iparban 1989 után. Dialóg-Campus Kiadó, Budapest-Pécs. 223. p.
- KÓRÓDI, J. – MÁRTON, G. (1968): A magyar ipar területi kérdései. Kossuth Könyvkiadó, Budapest, 174. p.
- KRAJKÓ, GY. – PÉNZES, I. – TÓTH, J. – ABONYI, GYNÉ. (1969): Magyarország gazdasági körzetbeosztásának néhány elvi és gyakorlati kérdése. Földrajzi Értesítő. 18. évf. 1. sz. pp. 95-114.
- RÉDEI, M. – JAKOBI, Á. – JENEY, L. (2002): Regionális specializáció és a feldolgozóipari tevékenység változása. Tér és Társadalom. XVI. évf. 4. sz. pp. 87-108.
- TATAI, Z. (1984): Iparunk területi szerkezetének átalakítása. Kossuth Könyvkiadó, Budapest. 250. p.