



Development of Hungary's Manufacturing Industry in the Conditions of European Integration

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ABSTRACT

The main historical trends that have formed the background for the transformation of Hungary's manufacturing industry were considered in this article, and the peculiarities of the development of the industrial sector in the conditions of European integration were studied. The positive and negative aspects of the transformation of Hungary's manufacturing industry in the conditions of European integration were highlighted in the article. Besides, the basic directions of the further economic and industrial development of the country were formulated.

Keywords: European Integration, Hungary, Countries of Central and Eastern Europe, Manufacturing Industry

JEL Classifications: F21, L23, O47

1. INTRODUCTION

The Central and Eastern European region includes 17 countries, of which 10 countries are integrated into the European Union. Relatively recently (until the 90s of the last century), 8 countries (GDR, Czechoslovakia, Hungary, Yugoslavia, Romania, Bulgaria, Albania) formed the Central and Eastern European region. The current territorial borders of the region have formed due to the socio-political processes that determined the collapse of Austria-Hungary (after World War I), the formation of the bloc of the "planned economy countries" (after World War II) and the anti-communist revolutions in the period from 1989 to 1990 (Drynochkin, 2014).

Being one of the Central European countries with a population of about 10 million people (ITD Hungary, 2010), Hungary has gone through a number of significant territorial transformations in its socio-political development. In particular, part of Transylvania territory was ceded to Romania (originally, after the World War I, the entire Transylvania became part of Romania, but South

Transylvania was returned to Hungary in 1940), and a significant part of Hungary's historical territory was ceded to the USSR, Czechoslovakia, Austria and Yugoslavia after World War II. Following the results of the territorial transformations determined by the global political processes, Hungary has lost 60% of its territory and at least half of the population, which affected the potential of its socio-economic development.

Until 1989, Hungary was part of the bloc of socialist European countries that have developed under the patronage of the USSR; only after the fall of the Soviet regime, Hungary's governing authorities have revised the strategic concept of the country's development with a focus on European integration. Hungary joined the European Union in 2004 and joined the Schengen countries in 2007. At the moment, Hungary is an industrially developed country based on the agricultural sector.

On the one hand, the path of the European integration chosen by Hungary allowed the country to receive new impetuses,

but on the other hand, it controversially affected its industrial potential.

2. METHODOLOGY

The main trends that determine the development of Hungary's manufacturing industry in the conditions of European integration are outlined in this article based on the methods of historical and retrospective economic and statistical analysis. Regions of the country are ranged by the level of activity of economic development using the comparative analytical method developed in the works of Panova (2015). The analytical method is based on the ratio of the number of economically and industrially active regions by areas of the country to the total population of these regions taking into account key socio-economic indicators: Population size, economic figures, number of industrial enterprises, agricultural enterprises and enterprises of the service sector, and investment attractiveness of the areas. The main theses that determine the further Hungary's industrial and economic development in the framework of European integration were formed on the basis of the earlier predictions (see works of Martynov, 2002; Brunet, 2002).

3. RESULTS

The manufacturing sector forms the basis of the economic development of Hungary or any other country. A powerful industrial infrastructure has been created in the country in the period of Hungary's development under the patronage of the USSR, where material-intensive and energy-intensive sectors prevailed. The most capital-intensive industries have been losing their importance for the economic development of the country in the period after the fall of the Soviet regime (since 1989). The industrial base of Hungary's economy currently consists of the sectors of machinery, machine tools, chemicals, metallurgy, pharmacy, textile and food industries, fields of production of instrumentation and communications. Despite the fact that Hungary lost a considerable part of its territory after the end of World War I and II, the country has demonstrated successful socio-economic development.

In economic terms, Hungary managed to significantly increase the volume of imports and to almost double its gross domestic product (GDP) after setting a course for European integration, in the period from 1990 to 2000 (Figure 1).

However, export of goods and services almost has not changed, so Hungary remained an import-driven country at the time, while a significant increase in GDP allowed to meet the necessary conditions for accession to the European Union. As of 2014, the total Hungary's export was about \$100 billion, while total import was about \$95.5 billion (Aghion et al., 1997). It is apparent that the accession to the European Union had a positive impact on the country's balance of trade. It can therefore be said that the course for European integration was the reason that led to the qualitative transformation of Hungary's national economy, including its manufacturing industry.

At the moment, the automotive industry, electronics industry and food industry make the main contribution to Hungary's GDP. As of 2015, these industries formed more than 55% of the total industrial contribution to the national welfare. At the same time, it should be noted that Hungary's automotive industry provided no more than 5% of GDP in the socialist period of development, while the country's electronics industry almost stalled (Figure 2).

On the other hand, Hungary's electrical engineering and radio engineering industries brought about 8-10% of contribution to the national GDP in the socialist period (Hungarian Central Statistical Bureau 2016).

This industry sank into degradation after the accession to the European Union, mainly due to the lack of competitiveness and the relatively high cost of the products that was at odds with the existing demand and offer on the single European market. At the same time, it is apparent that Hungary's economic development in the socialist period was not only capital-intensive in the industrial aspect, but also resource-dependent.

Decline in the share of food industry in the GDP cannot be considered as a negative trend, because qualitative transformations

Figure 1: Key indicators of Hungary's economic development in 1990 and 2000 (Hungarian Central Statistical Bureau, 2016)

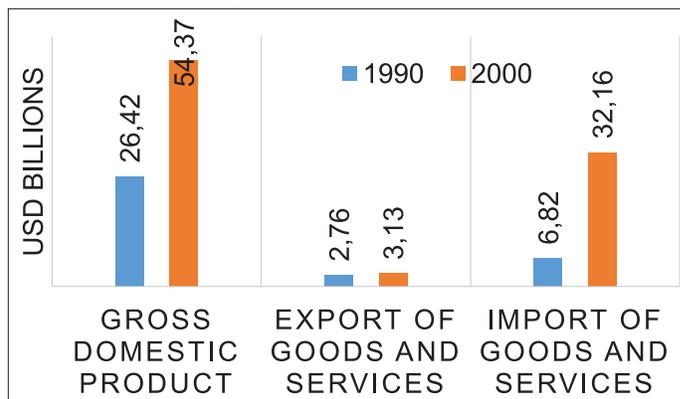
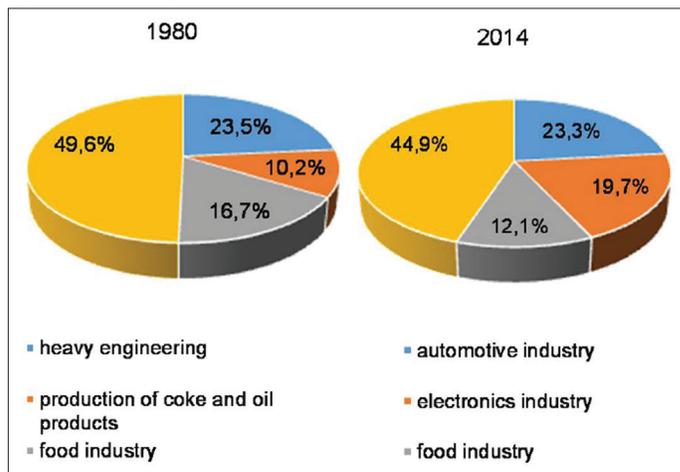


Figure 2: Structure of the industry sectors contribution to Hungary's gross domestic product (Hungarian Central Statistical Bureau, 2016)



in the industry allowed to modernize production processes and to significantly reduce their cost. Besides, according to the European Union's policy, quotas for agriculture (agricultural production) are provided to all integrated countries.

The termination of the own production activities in certain segments of agriculture and the need for integration of agricultural enterprises in the leading European corporations can be regarded as a negative issue here. The refusal of the leading Hungarian holding to produce sugar from its own raw materials, the shutdown of the relevant plants and the holding's business model transformation from production to distribution can serve as an example (Büscher, 2012; Aghion et al., 1997; Sidorenko, 2014).

The refusal of the resource-dependent scenario of Hungary's industrial development was explained not only by the requirements that determine the conditions for accession to the European Union, but also by the objective economic reasons (Adamanova, 2011; Husty, 2009):

- First, the field of production of coke and oil products was subsidized in the socialist period; government subsidies for deposits exploration and development were significantly higher than the contributions of the enterprises of this industry;
- Second, the country's mineral resources show a low concentration of minerals, which means a constant increase in costs in the conditions of unfavorable extraction of these minerals. Increase in production costs reduces the economic feasibility of further development of deposits;
- Third, foreign investments that Hungary managed to raise in the process of preparation and accession to the European Union have been focused on the industries that allowed to create high added value (they are automotive, electronics and pharmaceutical industries);
- Fourth, objective interests of investors (that is investments in the automotive industry) allowed to significantly develop other types of industrial production (manufacture of rubber, plastics and other non-metallic products as components for the automotive industry).

Thus, we can conclude at the present point of the study that Hungary's industry transformation in the framework of European integration is characterized by both positive and negative aspects. The positive aspects include the change in the model of the country's economic development, refusal of capital-intensive (very often environmentally hazardous) productions and resource-dependency. Significant progress in the automotive, pharmaceutical and electronics industries was achieved primarily through targeted foreign direct investment. On the contrary, the priority sectors that used to form Hungary's national wealth before the accession to the European Union have now sunk into degradation, and this had a negative impact on the social stability of the country. But it should be noted that a partial leveling of the negative aspects of the accession to the European Union was achieved due to the advanced development of other kinds of industrial production, improved competitiveness of agricultural products (contribution of agriculture to the national GDP is the second largest after the

industrial sector), as well as the advanced development of the service sector (about 10% of the national GDP is generated by the tourism industry and high tourism and investment attractiveness of the recreational areas).

4. DISCUSSION

Hungary's economic and industrial development has its own specific features. For instance, if you study the geographical location of the economically and industrially active zones, you may note that most of them are located in the west and in the central part of the country. This conclusion follows from the ranking based on the macroeconomic analysis. At the moment, Hungary's entire territory is administratively divided into 19 regions and 175 districts that are parts of certain areas. 12 key areas have been defined, ranked by the level of economic activity (Table 1) on the basis of the systematization of the key economic indicators (see Methodology section in this article).

If you compare the total number of administrative regions with the number of regions where economic and industrial activity is average or above average, you may note that from the territorial perspective, Hungary's economic and industrial potential is realized no more than by 37%, which is too little. In particular, the other countries of Central and Eastern Europe that were part of the so-called socialist bloc have realized their economic and industrial potential from the territorial perspective by more than 50-55% (Poland, the Czech Republic, Slovakia (Innovation Clusters in Europe: A statistical analysis and overview of current policy support, 2007; National Intelligence Council: Global Trends 2030: Alternative Worlds, 2012).

If you adhere to the concept of the European circular structure (Europe features a clearly defined circular path of development, the European Union being its center), you may note that Hungary has advantageous positions (Szilágyi, 2013; Report on Transformation. Hard Landing: Central and Eastern Europe Facing the Global Crisis, 2009).

In the circular structure, because it is situated in the eastern vector of the European Union's development. The eastern partnership of the European Union is seen as the most promising direction for expanding European integration.

In his works, Brunet suggested the hypothesis of European integration expansion from north-west to south-east before Hungary's accession to the European Union (Brunet, 2002).

Table 1: Characteristics of economic and industrial activity of Hungary's administrative regions

Region	Characteristic of activity
Komárom-Esztergom, Vas, Győr-Moson-Sopron, Jász-Nagykun-Szolnok	High economic and industrial activity
Zala, Bács-Kiskun, Csongrád	Economic and industrial activity is average or above average
Pest, Hajdú-Bihar, Baranya, Fejér, Szabolcs-Szatmár-Bereg	Economic and industrial activity is below average

He noted that the zone of European integration from the north-west of England to northern Italy had an arc-like shape (which is why the hypothesis was named "blue banana") and would grow radially, one of the key vectors being "Vienna – Budapest – Belgrade." This hypothesis was proved in practice: Many countries of Central and Eastern Europe, including Hungary, are integrated into a single European economic and political space.

Thus, the available information allows to suggest that after economic transformation, which also led to industry restructuring, Hungary has not yet completed the process of its integration into the European Union. In addition, it faced certain difficulties that pose very significant threats to sustainable socio-economic development of the country. On the other hand, Hungary has an advantageous economic and geographical position. Besides, the industrial sector of the country's national economy shows sufficiently high investment attractiveness. Therefore, Hungary is currently commercially and industrially developed country with transitive economy.

5. CONCLUSIONS

Although some sectors of industrial production have lost their importance to Hungary's national economy (which at some point caused social instability in the country), it may be noted that the prospects for the development of the country's industrial sector can be viewed as very high:

- First, Hungary's manufacturing industry has high research potential (Havas and Nyíri, 2007; Chesbrough, 2003; Kokas-Palicska, 2011); and high potential for economic growth, which leads to the conclusion about the prospects of further substitution of capital-intensive and energy-intensive industries with low added value in the products with high-tech industries that will allow to produce goods with high added value. This has a positive impact on the pace of economic and social development of the country;
- Second, the services sector has not been actively developed in Hungary's economy (in comparison with other countries of the European Union), while the global trend is that the industries of material production will be supplemented by service segments. This will lead to the formation of yet another perspective direction of development of Hungary's industrial sector and the economy as a whole;
- Third, Hungary's industrial sector of the economy continues to maintain the investment attractiveness, mostly thanks to prospects and opportunities that have not yet been realized. The main challenge is to redirect investment flows from the already rapidly developing sectors to the creation of new high-tech areas of industrial production;
- Fourth, Hungary's eastern and northern areas are less economically and industrially developed. Accordingly, the redirection of investment flows should relate not only to the industry-based, but also to the territorial specificity of industrial production.

In conclusion, it should be noted that the existing support of Hungary's economy from agriculture will not be a priority in the medium term. This is why the traditional agricultural

territories will have to transform in accordance with the common socio-economic development trends. It will require additional investment, and the task of the executive authorities is to ensure the influx of these investments by maintaining social and political stability in the country.

The European integration has greatly contributed to a qualitative transformation in the industrial sector of the Hungary's economy. On the one hand, the existing disparities in the development of the country's industrial sector carry certain threats and challenges (from the breakdown of the sectoral balance to the loss of economic independence), but on the other hand, new opportunities emerge. Accordingly, the main task is to ensure parity of economic and industrial interests of Hungary as an independent and self-sustained state with the European Union's interests within the ongoing processes of European integration and the formation of a single non-discriminatory space for all countries integrated into the European economic and political community.

REFERENCES

- Adamanova, Z.O. (2011), Peculiarities of innovative development of countries with transition economies. *Scientific Notes of the Crimean Engineering and Pedagogical University*, 28, 63-67.
- Aghion, P., Blanchard, U., Carlin, W. (1994), *The Economics of Enterprise Restructuring in Central and Eastern Europe*. CEPR London. Discussion Paper, 1058. p12-15.
- Brunet, R. (2002), Lignes de force de l'espace Europeen. *Mappe Monde*, 66(2), 14-19.
- Büscher, E. (2012), Market Potential for the Industry and Projects in Hungary. Bundesministerium für Wirtschaft und Energie. Available from: https://www.export-erneuerbare.de/EEE/Redaktion/DE/Downloads/Publikationen/Praesentationen/2012_06_26_erfolg_ir_ungarn_vortrag_buescher.html. [Last retrieved on 2016 Jun].
- Chesbrough, H. (2003), *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Boston: Harvard Business School Press. p227.
- Drynochkin, A.V. (2014), *Economy of Hungary*. Moscow: MGIMO-University. p106.
- Havas, A., Nyíri, L. (2007), *A magyar nemzeti innovációs rendszer (The Hungarian innovation system)*. Budapest: NKTH. p136.
- Hungarian Central Statistical Bureau. (2016). Available from: <http://www.ksh.hu/?lang=hu>. [Last retrieved on 2016 Jun].
- Husti, I. (2009), General problems related to innovation and its potential in the Hungarian agro-food sector. *Studies in Agricultural Economics*, 109, 5-24.
- Innovation Clusters in Europe: A Statistical Analysis and Overview of Current Policy Support. (2007), DG Enterprise and Industry Report. European Commission. p63.
- ITD Hungary. (2010), *Hungary - business review*. Available from: http://ukreexport.gov.ua/i/imgsupload/itdh_businessbriefrussian2010.pdf. [Last accessed on 2016 May 15].
- Kokas-Palicska, L. (2011), Challenges of the Hungarian textile and clothing industry. *Óbuda University e-Bulletin*, 2(1), 147-160.
- Martynov, V.L. (2002), *Spatial self-organization of society: Relationships and interactions*. St. Petersburg: Herzen State Pedagogical University. p54.
- National Intelligence Council. (2012), *Global Trends 2030: Alternative Worlds*. Washington: National Intelligence Council.
- Panova, M.V. (2015), *Transformation of Hungary's manufacturing industry in the conditions of European integration*. Science

- Studies, 7(5), 74. Available from: <http://www.naukovedenie.ru/PDF/112EVN515.pdf>. [Last retrieved on 2016 Jun].
- Report on Transformation. Hard Landing: Central and Eastern Europe Facing the Global Crisis. (2009), In: The Proceedings of the 19th Economic Forum Krynica Zdroj, Poland, 9-12 September 2009. Price Water House Coopers Publication. p104.
- Sidorenko, V.N. (2014), Chorologic specification of portfolio investments in the Eastern European countries on the example of Hungary. *Economy and Society: Modern Models of Development*, 8-1, 161-167.
- Szilágyi, K. (2013), *The Hungarian Monetary Policy Model*. Budapest: Hungarian National Bank.