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Analysis of the development of the automotive cluster and its impact on economic growth in Central and Eastern Europe between 2013 and 2017

In Central and Eastern Europe (CEE), a closely linked automotive cluster has evolved since the regime change in 1989. The production network mainly includes V4 countries (Czech Republic, Hungary, Poland, Slovakia) and Romania. EU membership has further increased the concentration of this network. Following the crisis in 2008, the automotive value chain has undergone further changes that is experienced as a reindustrialization of the region. Nevertheless, the evaluation of the region's participation in the automotive value chain is ambiguous. First, the capital intensive production in CEE generally does not need highly skilled labour. The assembly activities are common, and it results a relatively low value added ratio. However, the volume of production is high, therefore its proportion in GDP is significant, and its impact on economic growth is remarkable. Second, automotive industry through its foreign direct investment inflows has been determining for post-socialist countries. Despite of the great amount of FDI stock, these firms' integration into the domestic economies is still weak. The import ratio of the production is very high and domestic suppliers are typically foreign controlled multinational enterprises. The export ratio of the industry is extremely high compared to almost any other industries.

In this paper, a two-level analysis is made. First, a comprehensive picture from the region is got through aggregate data. It is focused on how the global automotive industry's relocation to CEE has changed the value chain and the form of dependence in the region since the slight recovery in 2013. This change is investigated through the countries' exposure to export and import, the influence on GDP and the amount of both profit outflows and FDI stock change. Second, Hungarian automotive cluster is analyzed deeper through microdata in order to detect the relationship with other automotive enterprises in CEE. It is based on the interpretation of transaction-level data for the years 2013 and 2017. Due to this method, Hungarian producers can be fully identified and the actors in CEE who have transactions with Hungarian companies can be detected. Through microdata it is possible to identify the Hungarian enterprises' positions in the hierarchical structure of the value chains. Moreover, many other indicators (GVA, ITGS/ITSS, IFATS, balance of payments) and company's annual reports are used in order to draw consequences on the opportunities and the risks of the particular CEE model on the economic growth.

According to this research, the concentration of the automotive cluster has increased between the four years, and the intensity of trade among the countries has also grown. At the same time, due to the saturation in the European vehicle market, Asian sales opportunities have become more valuable which enhanced indirectly the dependence of the analyzed countries.

The developed methodology could also be implemented on micro-level data of V4 countries and Romania, and the results, in addition to helping to understand the nature of the region's economic growth, can be used for forecasting purposes later on, as well. The main objective with this project is to improve the knowledge about the large automotive companies and their value chains in order to understand and forecast their complex effects on national accounts.