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GEOSCAPE

The role of the automotive industry in the economic transformation and reindustrialisation of old industrial regions (a case study of Czechia)

Jaroslav Koutský[1] ✉ — Václav Novák[1] — Jan Holub[1]

[1]Department Regional Development and Public Administration, Faculty of Social and Economic Studies, J. E. Purkyně University, Ústí nad Labem, Czechia
✉ *jaroslav.koutsky@ujep.cz*

Abstract

Within the broader context of the automotive industry's dominance in post-communist Central European countries, the primary objective of this article is to determine whether this trend has also influenced old industrial regions (OIRs). The authors focus on the Moravian-Silesian Region and the Ústí Region, both belonging to regions that, due to its sectoral specialization, ranks among the most problematic in Czechia in terms of economic restructuring. The paper seeks to demonstrate the presence of both deindustrialization and reindustrialization within these OIRs. The dynamics of these processes are evaluated using data from business accounts. The primary data source consists of the main financial records of automotive businesses, even in cases where a company's registered headquarters differs from the location of its production site. From a methodological perspective, the article also addresses the recalculation of business account data to individual production sites within a single company. The study focuses on one key proportional indicator of the economic performance of the automotive industry: value added per employee. The main finding is that the automotive industry plays a crucial role in both OIRs under investigation, but in terms of reindustrialization, there are various drivers affecting the differential dynamics of this process in both regions. At the micro-regional level, the automotive industry is spatially highly concentrated in both regions.

Keywords

Reindustrialisation, Automotive industry, Old industrial region, Economic performance

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Highlights for public administration, management and planning:

- Manufacturing industry continues to play significant role in the regional economies of the Moravian-Silesian Region and the Ústí Region.
- Transformation of its sectoral structure remains highly dynamic.
- A shortage of labor has led to a steady increase in wages across Czech industry, regardless of economic performance.
- Attention should be given to traditional industries within Czech regions, as their economic performance is often stronger than that of newer industries that rely on cheap labor.

1 Introduction

Following the fall of the communist regime in 1989, the 1990s saw the emergence of the transformation of the Czech economy – from a centrally planned economy to a market economy. An integrated part of this transformation process was represented by the necessary privatisation of businesses in the manufacturing industry. Seventeen years after the fall of communism, the result of the transformation was assessed by Myant (2007) who – aside from some reservations – reached a prevailingly positive conclusion. According to him, the Czech economy "has been successfully transformed into a reasonably strong market economy, well up among middle-income countries. However, the basis has not been laid for a place among the world's 'core innovators". From the perspective of the manufacturing industry, the transformation of the Czech economy has brought with it ”the vulnerability of the entire economy” which was the result of “increased dependence on exports from a few successful sectors, including the automotive industry, to only a few countries“ (Pavlínek & Ženka 2011).

The process of economic transformation was accompanied by a number of other structural changes, such as the decrease in the contribution of manufacturing sectors to the employment rate, thus resulting in the increased representation of the tertiary sector (Večerník & Flek 2005). Simultaneously, the decrease in the industry’s employment rate in the post-communist countries goes hand in hand with the process of reindustrialisation which is gaining an ever higher relevance in the so-called old industrial regions.

The aim of the paper is to find out whether the old industrial regions of the post-communist countries of Central Europe are undergoing a reindustrialisation process. In particular, whether the traditional industries are being replaced by the automotive industry, which has become a clear propulsive industry in all post-communist countries of Central Europe. The economic performance of traditional industries will also be compared with that of the newly dominant industry.

Two traditionally industrial regions in Czechia, namely the Ústí Region and the Moravian-Silesian Region, were chosen as model areas. The research also focused on the lower spatial level of the administrative districts of municipalities with extended powers. These administrative units represent the level of micro-regions within Czechia. The aim was to assess the extent to which the new industry replacing the traditional ones is spatially distributed in the analysed regions.

1.1 Old Industrial Regions

Old industrial regions (OIR) belong undoubtedly among the principal ”losers” in the deepening process of globalisation (Koutský 2011). OIR represent specific territories with a strong specialisation in industrial production that have, nevertheless, been affected by the decreased performance of the regional economy and the obsoleteness of the key structures and branches thereof (Koutský 2011). Advanced economies – both in Europe (Massey & Meegan 1979), and in North America (Bluestone & Harrison 1982) – have long been placing the issue of forming the OIR within the context of the process of deindustrialisation.

The term ”old industrial regions” was first coined by Steiner (1985). The topic of the OIR became the subject of a great number of expert texts at the end of the 1980s and during the 1990s. A discussion on the weaknesses of the OIRs in comparison with the dynamically developing (successful) regions is held within the context of national regional differences (e.g. Scott 1988 and Saxenian 1994). As early as the 1990s, a number of authors had started pursuing the processes of OIR re-structuring (Cook 1995). Eckart (2003) focused on selected OIRs in Central Europe – including the Ostrava Region in Czechia. In the mid-1980s, the issue of the OIRs became the subject of a wide expert discussion, as they related to almost all the advanced European and North American countries. The interest therein also continued at the beginning of the 21st century – for instance, in connection to the post-industrial potential of the post-mining OIRs in Central Europe (Harfst 2015) – the topic of which bears thematic resemblance hereof.

Europe’s old industrial regions are undergoing a complex transformation, driven by the decline of traditional industries and the transition to knowledge-based economies. This transformation is accompanied by a number of challenges, but also brings new opportunities for development. According to Birch et al. (2010), the economic performance of these regions is strongly influenced by both national political systems and regional specificities. Trippl & Otto (2009) analyses the importance of cluster-based renewal strategies involving incremental change, diversification and radical change, which are essential for the renewal of OIR. While Coenen et al. (2014) emphasise that regional innovation policy is essential for the renewal of old industrial regions by integrating new technologies, to overcome industrial lock-in and path dependency. Trippl et al. (2018) distinguish between different types of innovation systems and emphasises that each type has specific needs and capabilities to absorb external knowledge. OIR often fall into a category with a strong specialisation in well-established (often outdated) industries that have specific needs and capacities for attracting and absorbing non-local knowledge. Blažek et al. (2019) identify three main trajectories of decline for OIR and also place emphasis on the importance of innovation systems for regions’ ability to adapt. Koutsky et al. (2011) emphasise the potential for new development trajectories in the context of globalisation and stress the importance of combining local and global elements. Hlaváček & Koutský (2011) point to the economic challenges of Czech old industrial regions, such as monopolisation and sectoral concentration. A study by Blažek & Květoň (2022) argues that the success of transformation depends on the active role of regional actors. Using the ex-

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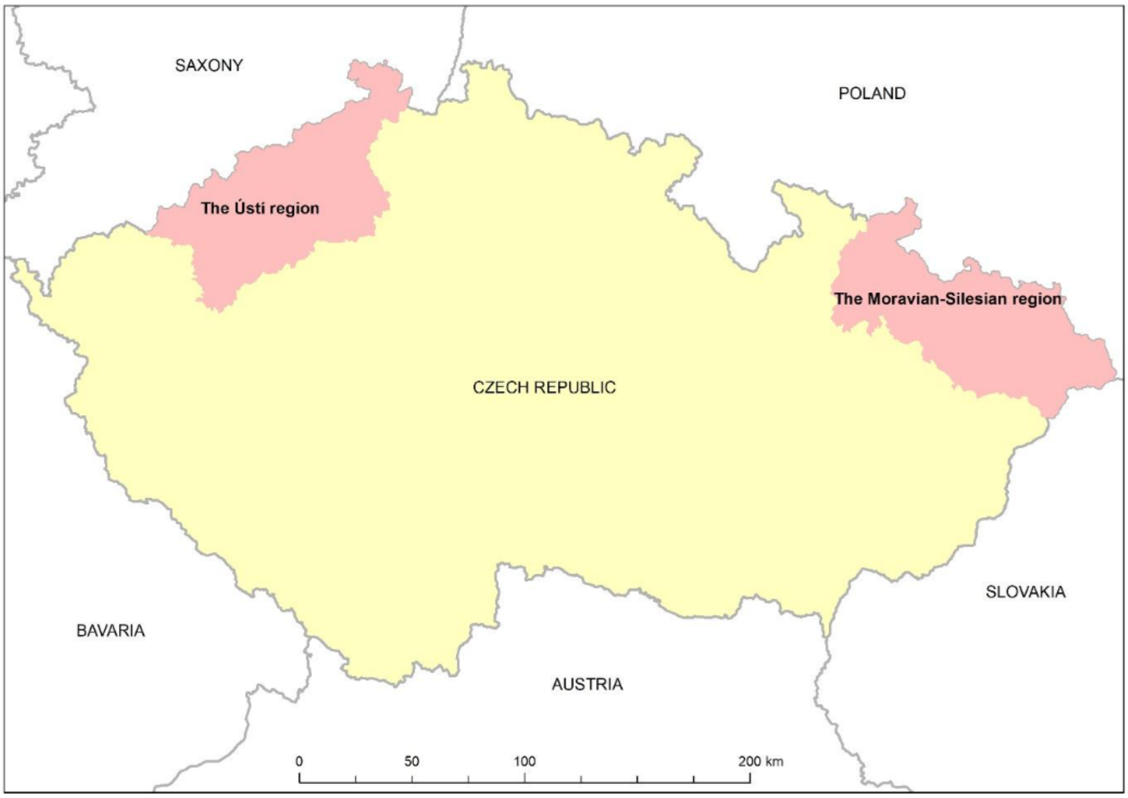

Fig. 1 Geographical position of the Ústí and Moravian-Silesian regions within Czechia (own elaboration)

ample of the Moravian-Silesian region, they demonstrate how significant diversification and expansion of the tertiary sector can lead to a more successful transformation. In contrast, the Ústí region serves as an example of a region where transformation is slower due to the lower ambitions of local actors.

The question thus relates to the manner, if any, of the process of OIR revitalisation in post-communist countries. In other words, the article inquires as to the fact whether the developmental trajectories of the OIRs in former socialist states are, from a comparative perspective, analogous to the West or whether the key role is played here by major processes other than those of deindustrialisation. Our work is based on the fact that as early as the 1990s the post-communist countries were dealing with the issue of national economic transformation – and one of the most significant tools thereof was attracting direct foreign investments (FDI). The FDI were overwhelmingly aimed at the manufacturing industry. Until 2010 the distribution of FDI could be regarded as fragmented in Czechia because there were rather high regional disproportions (Hlaváček & Koutský 2011). But FDI within the automotive industry were channelled towards all the regions, also including the Ústí Region (Novák & Drdová 2013).

It was the Ústí and the Moravian-Silesian Regions which became the subject of interest of the team of authors hereof. The common denominator of both of the regions is coal mining. In the case of the Moravian-Silesian Region, it regards black coal mining following the tradition of metallurgy. The Ústí Region focuses on brown coal mining which is most commonly consequently utilised for the purposes of energy recovery (energy and heat production). Within Czechia, the two regions mentioned are separated by a comparatively great spatial distance (Fig. 1). The common thread is represented by the fact that these two regions are the most problematic regions which receive – within the context of national and European regional policy – the greatest degree of attention.

1.2 The Automotive Industry

From a global perspective, the automotive industry has become a key industrial branch, an economic phenomenon, reigning supreme within the global economy since the early twentieth century. It employs millions of people directly and tens of millions indirectly. Throughout most of the twentieth century, the automotive industry expanded rapidly, moving in parallel with the development

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of the biggest economies in North America, Europe and Japan (Maxton & Wormald 2004). The European automotive industry has undergone significant transformations in recent decades. Globalisation, technological progress and changes in consumer preferences have fundamentally affected its structure and competitive environment (Pavlínek 2019, 2021). Pavlínek (2021) identifies a stable core of the European automotive industry, consisting of Germany, France and Italy. These countries are characterised by strong innovation capacity and market dominance. In contrast, Eastern and Central Europe, although having experienced rapid growth, remains a region with lower value-added production. Central Europe (Czechia, Hungary, Poland, Slovakia and Slovenia) has been classified as being part of such integrated peripheral markets indicating its integration into the West European automotive industry with comparative advantages in the assembly and labour-intensive manufacture of components (Humphrey et al. 2000).
A pronounced handicap of the automotive industry in the post-communist countries of Central Europe is the manufacturing of low-value-added, labour-intensive parts and accessories, combined with a low level of research and development and other non-production functions. This is a manifestation of their peripheral position within the European automotive production system. This position is further reinforced by the overwhelming foreign ownership of the Central European automotive industry, which means that all of the important investment decisions are made by foreign Transnational Companies external to the region, and through its dependence on the transfer of foreign technology, management systems and research and development (Pavlínek et al. 2009). By means of a comparison analysis employing the data on gross value added per employee in the automotive industry conducted between Germany and the so-called Visegrad Four countries, (Gerőcs & Pinkasz 2019) it is unequivocally confirmed that the former socialist countries of Central Europe still maintain an essential position within the most significant European industrial branch. At the same time, foreign multinational corporations (TNCs) play a key role in shaping the structure and dynamics of the European automotive industry. Pavlínek (2019) shows that TNCs are major actors in job creation and job loss, and significantly influence geographical shifts in the industry.

2 Data, Methods

A database of indicators of business accounts was established based on the individual final accounts of automotive companies. The final accounts are established in compliance with generally recognised accounting principles and standards. By following these principles, common comparability and controllability of the financial accounts of various entities is thus assured. The general accounting principles within Czechia are legislatively codified (Sedláček 2005).
In Czechia, the data from final accounts are neither publicly nor commercially fully available in any easily accessible electronic database form. For this reason, an original database spanning the period from 2007 to 2021 had to be created. The database only includes entities with active operation throughout the whole period examined – i.e. the entities were neither established nor ceased to exist during the period in question.
Processing the data of business accounts brings many challenges. Despite the fact that some companies run several manufacturing sites, final accounts are not published for the individual manufacturing sites, but only for the company as a whole. In such cases, the data from the final accounts became subject to an aliquot recalculation pursuant to the number of employees at individual production sites.
The length of accounting periods also had to be taken into consideration. The majority of final accounts are naturally processed for a 12-month period, though this is not always the case. The accounting period could have been shortened or extended for a period longer or shorter than 12 months, especially in cases of a transition to a different month in which the accounting period starts. Therefore, the data in such cases was always recalculated for a 12-month period. This, however, gives rise to another issue. The data herein is presented separately for individual calendar years. Nonetheless, the accounting period for certain companies may begin on a different day – not on 1st January exclusively. In such cases, the data from the final accounts is related to such a calendar year to which the majority of the accounting period of the specific final accounts is also related to.
In total, the database of the automotive plants in the Moravian-Silesian Region and the Ústí Region contains data of about 62 entities. The asset thereof is that it represents a complete database for the entire fifteen-year period from 2007 to 2021. As the database regards plants of the biggest companies, it represents sufficiently extensive information on the entire branch in both regions in question.

The individual absolute values of variables provided by the accounts are put into mutual relations while giving rise to the so-called ratios (Neumaierová & Neumaier 2002).Utilisation of such ratios, as well as the related data from profit and loss statements per number of employees, carries a crucial value for the purpose of the identification of regional differences on the basis of the data of the business accounts aggregated (Novák & Drdová 2013).
The value of our own research furthermore resides in the fact that the data of business accounts is not available in Czechia for individual regions. In other words, the publicly available sources only represent individual indicators (and ratios) within the sectoral segmentation on a national level. The comparative analysis utilises data from business accounts from public sources for the entire manufacturing and automotive industries within Czechia.
The comparison of the data publicly presented by the Statistical Office, with the data acquired in our own research based on collecting data from the final accounts of companies, is justified. On the basis thereof, it is possible to assess the economic performance of industrial branches on levels lower than the national level – which is something that the entirety of today's publicly available statistical sources fails to facilitate (Novák & Drdová 2013).

3 Results

3.1 Employment

The data gathered in our own database of the automotive companies has shown that in some of the years within the period surveyed, i.e. between 2007-2021, the employment rate in the automotive industry in the Ústí Region and the Moravian-Silesian Region decreased (Fig. 2). It particularly concerned the year 2009 as a consequence of the economic crisis, the indications of which started to become apparent in Czechia in the second half of 2008. Nonetheless, between 2007 and 2021, there was a clear trend of a noteworthy increase in the employment rate in the automotive industry both in the Ústí and the Moravian-Silesian Regions.
Between 2007−2021, the number of employees in automotive companies in the Moravian-Silesian Region increased twofold. Quite undoubtedly, it was due to the 2006 arrival of the Hyundai automotive manufacturer in Czechia which constructed its own automobile manufacturing plant near the town of Frýdek-Místek south of the regional metropolis of Ostrava. The first vehicles manufactured there started leaving the production line in 2009. Thanks to this Korean investment, the region has at-

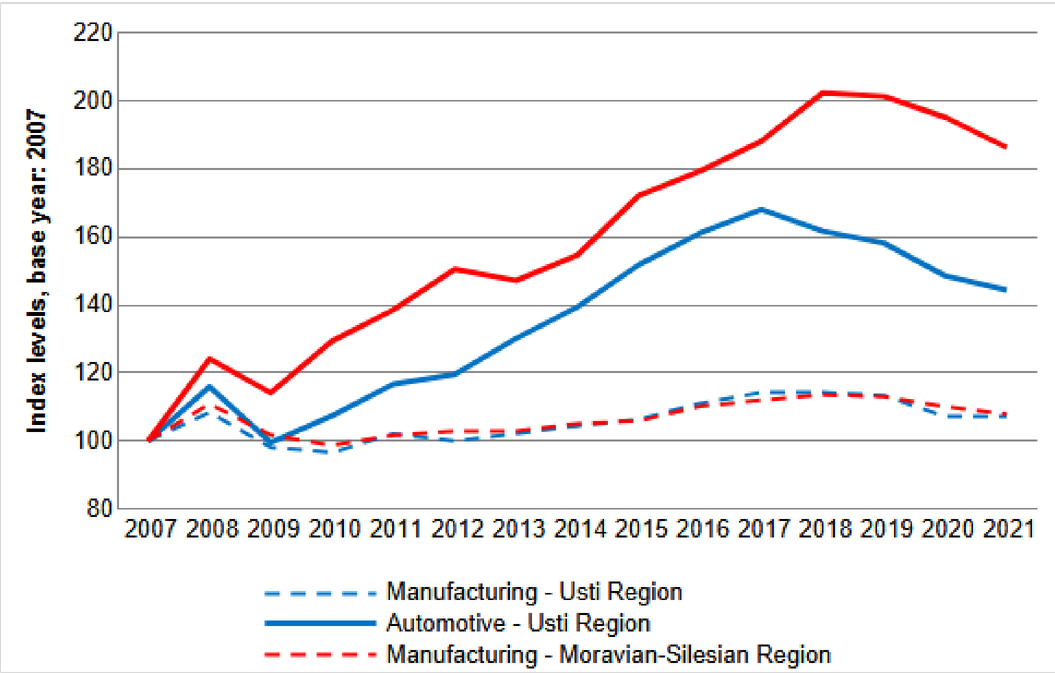

Fig. 2 Development of the employment rate in the manufacturing industry and the automotive industry in the Ústí region and the Moravian-Silesian region in the period from 2007 to 2021 (basis index); (own elaboration based on Regional accounts, Czech statistical office 2023; final accounts of automotive businesses for the period of 2007-2021)

tracted other foreign investors including the component suppliers within the automotive industry which have either provided the Moravian-Silesian Region and the neighbouring regions with so-called greenfield investments, or have significantly expanded the existing manufacturing capacities – for instance, a production site in Frenštát pod Radhoštěm for a global supplier within the automotive industry, the Continental Company, has registered a significant increase in its employment rate. The newly established manufacturing sites primarily represent investments of Korean component suppliers within the automotive industry. It was also the nearby Kia automotive plant in Žilina in the neighbouring Slovakia which helped to localise these Korean investments in the Moravian-Silesian Region. The Kia and Hyundai automotive plants are both part of the Korean Hyundai-Kia Automotive Group.

The employment rate in the automotive industry in the Ústí Region and the Moravian-Silesian Region grew considerably faster than the number of employees within the entire manufacturing industry in both regions. It can therefore be assumed that both of these old industrial regions comprise of some industrial branches which registered stagnation or a decrease in employment rate between 2007 and 2021. Therefore, these two regions may have presumably experienced a dramatic modification of the branch structure of the manufacturing industry. These changes were among the most significant within the labour market in Czechia.

The COVID-19 pandemic certainly had a negative impact on industrial production, particularly in 2020. Car manufacturers halted production for several months. However, it is quite obvious that the drop in employment in the automotive industry in the Ústí and Moravian-Silesian regions occurred even before the outbreak of the pandemic. In the period of 2017-2018, employment growth in the automotive industry was evidently slowing down.

3.2 Labour productivity

In 2007 – when Czechia had not yet discerned any indications of the economic crisis– the automotive industry in the Moravian-Silesian Region was showing very low labour productivity expressed as value added per employee. A pivotal change thereof came after the commencement of the operation of the Hyundai automotive plant. The economic performance of the automotive industry in the Moravian-Silesian Region between 2008 and 2014 increased more than fourfold (Fig. 3). Also, although in the following years the value added per employee stagnated slightly due to fluctuating development, its values continued to exceed the national average within Czechia.

The automotive industry in the Ústí Region has been continuously showing very low value added per employee in comparison to the Czech national average. The cause thereof is the absence of a plant of any of the automobile manufacturers which shows the highest margins among the supplier chain and end producers. However, the greatest issue is represented by the fact that within the Ústí Region, it was prevailingly the suppliers of low-tech components for personal vehicles (e.g. interior parts) which invested in this Region and whose economic performance indicators thus, quite understandably, show low values.

It is interesting that the period of the COVID-19 pandemic did not fundamentally affect the economic performance of the automotive industry within Czechia. Instead, the result was that according to production performance characteristics, the automotive industry within Czechia exhausted its potential as early as the middle of the second decade of the 21st century.

3.3 Wages

For the entire period from 2007 to 2021, the average wage in the Moravian-Silesian Region's automotive industry was lower than in the automotive industry across the whole of Czechia (Fig. 4). It is certainly worth noting that the wage level within the automotive industry in the Ústí Region developed similarly to that in the Moravian-Silesian Region until 2019, and in the last two years of the period analysed it even rose unexpectedly to the level of the national average. This contradicts the findings regarding economic performance, which greatly differ within the automotive industries in both of the Regions.

In a similar fashion to the whole of Czechia, the above-stated monthly wage level in the Ústí Region kept increasing linearly for the entire period examined. However, in the Moravian-Silesian Region, the years 2007 and 2008 recorded a decrease. Subsequently, but nonetheless, it came to a significant acceleration of growth of the wage levels which was connected to automobile production in the then newly constructed Hyundai automotive plant in 2009. The lower wage level of both of the OIRs in comparison to Czechia's average should not be interpreted as their marginal position within the Czech regional hierarchy. The average wage in Czechia is greatly increased by the metropolitan area of the capital of Prague where the average wage is considerably higher than

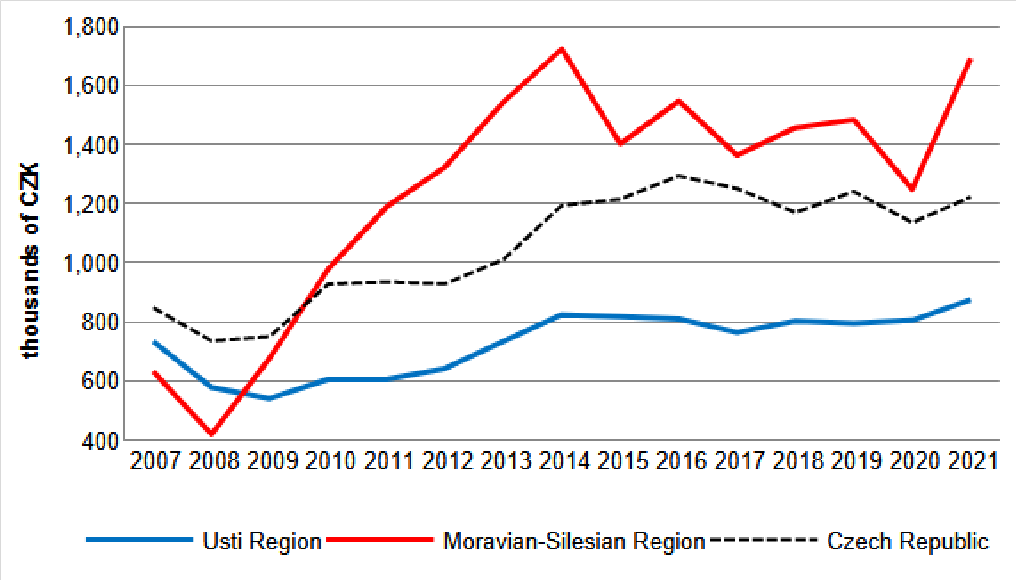

Fig. 3 Value-added per employee in the automotive industry in the Ústí region, the Moravian-Silesian region and Czechia in the period from 2007 to 2021 (own elaboration based on Economic results of industry within the CR – 2014-2021, Czech statistical office 2016-2023; final accounts of automotive businesses for the period of 2007-2021)

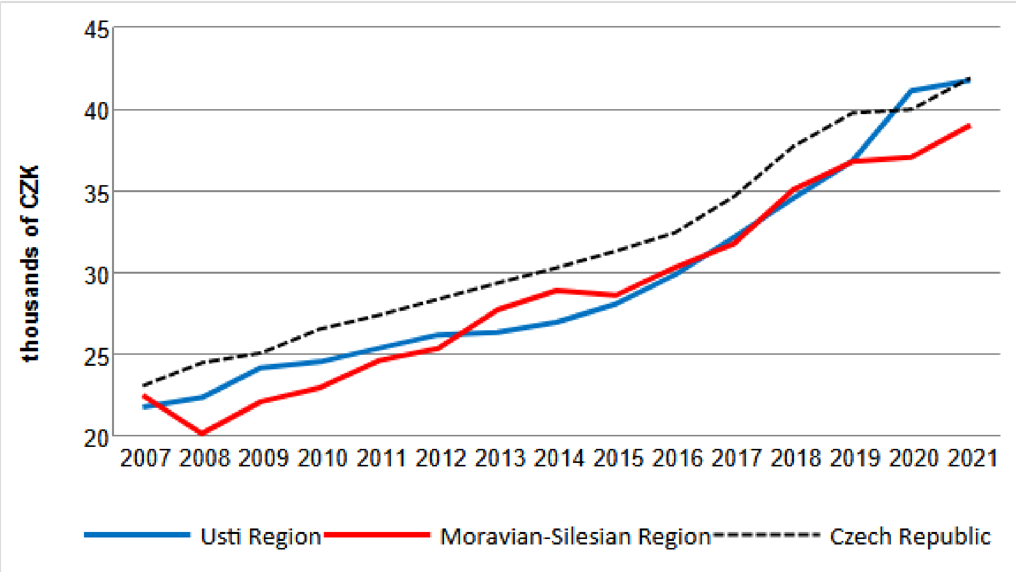

Fig. 4 Average monthly wage in the automotive industry in the Ústí region, the Moravian-Silesian region, and Czechia in the period from 2007 to 2021 (own elaboration based on Economic results of industry within the CR – 2014-2021, Czech statistical office 2016-2023; final accounts of automotive businesses for the period of 2007-2021)

in other parts of the state. The wage increase in the Ústí Region may be the result of the proximity of the attractive Saxon labour market.

3.4 Spatial distribution of employment, change in economic performance

After 2000, the automotive industry became spatially concentrated in several micro-regions within the regions analysed. In the Ústí Region, only the Žatec micro-region reported more than 3 thousand employees in the automotive industry in 2021. This micro-region also experienced the highest employment growth within the Ústí Region between 2007 and 2021, amounting to more than 2 thousand persons (Fig. 5). No other micro-region in the Ústí Region recorded an increase in the number of persons employed in the automotive industry exceed-

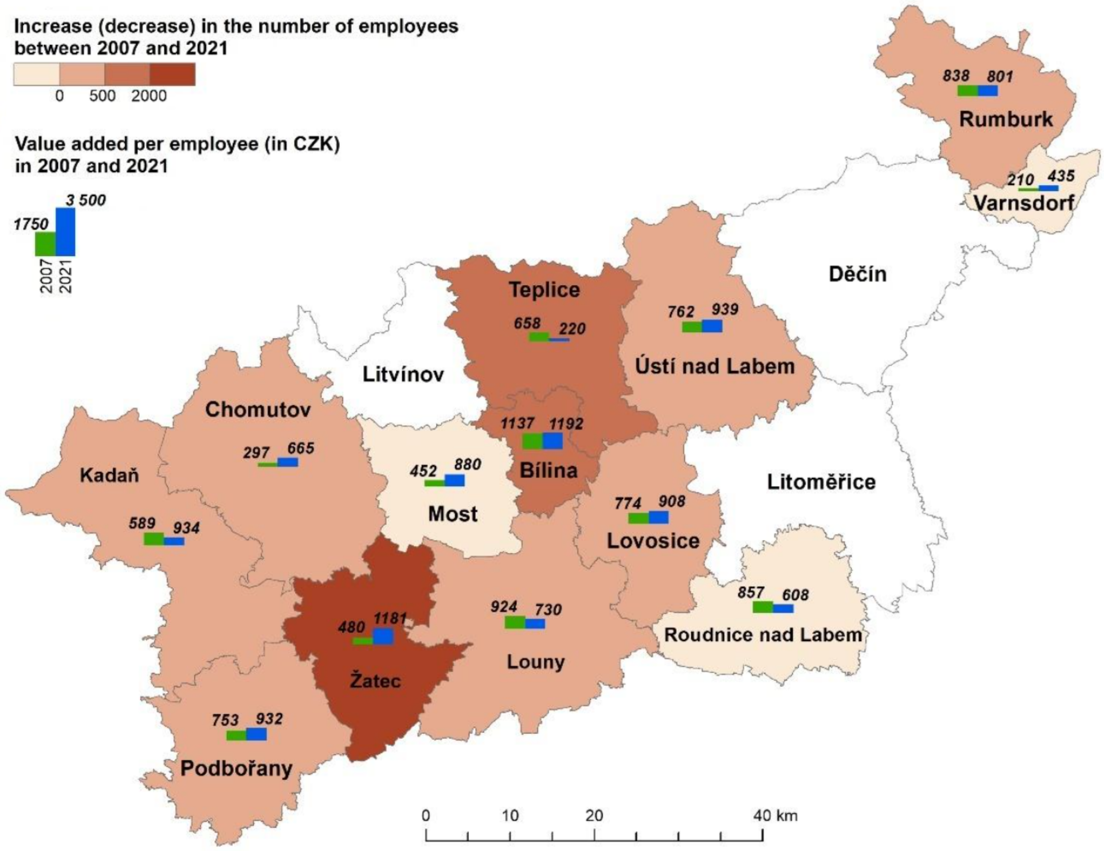

Fig. 5 Employment increase (decrease) and in the automotive Industry in the Ústí Region between 2007 and 2021 and the economic performance in the automotive Industry in the Ústí region in 2007 and 2021 (own elaboration based on Final accounts of automotive businesses for the period of 2007-2021)

ing 1,000 persons. In three micro-regions there was even a decrease in employment.

Economic performance declined in four micro-regions of the Ústí Region between 2007 and 2021. In addition to the Žatec micro-region, the Bílina micro-region, where the most important employer is a producer of car glass, recorded a value added per employee of more than CZK 1 million in the Ústí Region in 2021. In the Žatec micro-region there is a state-supported strategic industrial zone, where automotive companies are concentrated. Its location close to the D7 motorway is also very advantageous with regard to good connections to the German motorway network. There are therefore at least two locational factors that have caused a high concentration of jobs in the automotive industry in the Žatec micro-region, which historically has not had a tradition in this sector, as it has always been a region with an agrarian tradition.

In the Moravian-Silesian Region, the automotive industry is even more spatially concentrated than in the Ústí Region. Most companies are concentrated south of Ostrava in several micro-regions along the D48 motorway (Fig. 6). Unlike the Ústí Region, the automotive industry has a tradition here, especially in the Kopřivnicle and Nový Jičín micro-regions. From a spatial point of view, it is interesting that the automotive industry is also expanding into micro-regions with a strong tradition of coal mining and related metallurgy (Bohumín, Karviná, Třinec micro-regions). However, these industries have been declining in recent years.

The dynamics of growth in the number of employees and the economic performance of the automotive industry was also at a higher level in most micro-regions of the Moravian-Silesian Region than in the micro-regions of the Ústí Region in 2021. A decrease in employment was detected in only one micro-region between 2007 and 2021. All micro-regions of the Moravian-Silesian Region showed an increase in value added over the period under review.

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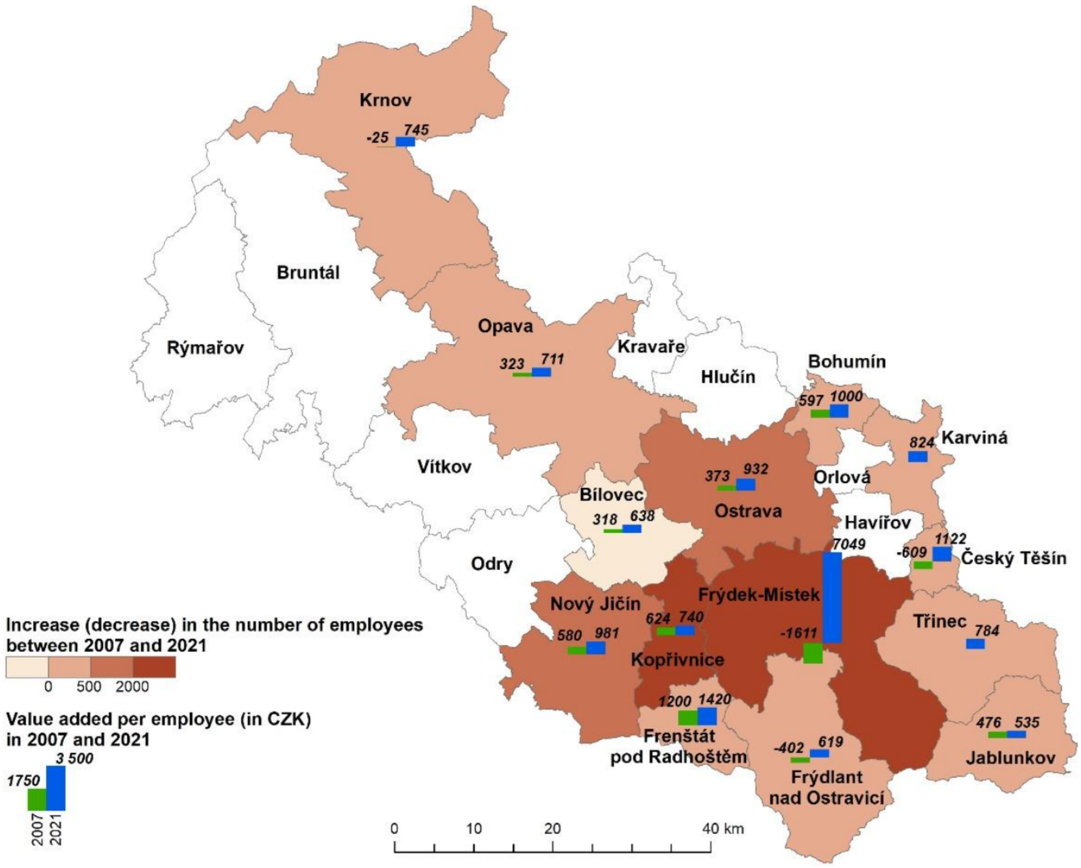

Fig. 6 Employment increase (decrease) and in the automotive Industry in the Moravian-Silesian region between 2007 and 2021 and the economic performance in the automotive Industry in the Moravian-Silesian region in 2007 and 2021 (own elaboration based on Final accounts of automotive businesses for the period of 2007-2021)

3.5 Comparison with traditional industries

In the Ústí and Moravian-Silesian Regions there are industries that belong among the traditional. These industries played a crucial role in the early industrial traditions of both regions. The basic raw material, without which traditional industries in the Ústí and Moravian-Silesian Regions could not have developed, was coal.

Lignite (brown coal) in the Ústí Region was suitable for the production of chemical substances. The chemical industry in the Ústí Region went through a transformation process in the 1990s, which was accompanied by a significant reduction in the workforce. Therefore, in the years observed, between 2007 and 2021 (Tab. 1), there was no significant decrease in employment in 14 chemical industry businesses in the region, all of which had more than 50 employees. The sector had already stabilised in the first decade of the 21st century and showed above average labour productivity in terms of added value and wages. In the Ústí Region, employment increased by 66 % in 31 automotive industry businesses with 50 or more employees, but the contribution of this sector to increasing the economic performance of the region is minimal. The automotive industry in the Ústí Region includes, for the most part, suppliers of car interior components, which have low margins and currently mainly employ foreign workers from Eastern Europe or Asia.

Black coal mined in deep mines in the Moravian-Silesian region represents the raw input material for the traditional metallurgical industry. Between 2007 and 2021, a total of 16 businesses dealing mainly with iron metallurgy were registered. Due to the steel prices on European markets which fell under the pressure of importing cheap steel, mainly from China, there was a dramatic slowdown in the metallurgical industry in the Moravian-Silesian region during the monitored period, which is reflected in a decrease in the number of employees by more than 3 thousand persons and, above all, by a fundamental decrease in profitability measured by added value per employee. This was a de-

Table 1 Employment, value added per employee and average monthly wages in the automotive and chemical industries in the Usti Region in 2007 and 2021 (own elaboration based on final accounts of automotive and chemical businesses in the Usti Region in the years 2007 and 2021)

Indicator	2007		2021	
	Automotive industry	Chemical industry	Automotive industry	Chemical industry
Employees	9692	4306	16 150	3997
Value added per employee (thousands of CZK)	725	1649	761	2492
Average monthly wage (thousands of CZK)	21.7	28.0	32.1	39.3

Table 2 Employment, value added per employee and average monthly wages in the automotive and metallurgical industries in the Moravian-Silesian Region in 2007 and 2021 (own elaboration based on Final accounts of automotive and metallurgical businesses in the Moravian-Silesian Region in years 2007 and 2021)

Indicator	2007		2021	
	Automotive industry	Metallurgical industry	Automotive industry	Metallurgical industry
Employees	13 061	19 353	24 328	16 138
Value added per employee (thousands of CZK)	632	1635	1690	1044
Average monthly wage (thousands of CZK)	22.5	26.4	39.0	40.9

crease from CZK 1.6 million to CZK 1.0 million per employee. On the other hand, the automotive industry in the Moravian-Silesian region showed an 86 % increase in employment and an 167 % increase in value added per employee between 2007 and 2021 (Tab. 2).

4 Discussion

Unlike the authors hereof, Harfst (2015) fails to mention the reindustrialisation of the OIRs as a potential method for their revitalisation. Instead, he tends, rather timidly, to focus his attention on the recreational use of the OIRs which he subjected to analysis, and on the state funding that presents regions with the option to actively explore possibilities for alternative economic futures. His opinion stands in contrast to that of Tregenna (2013), who claims that at the beginning of the 21st century, many countries with the experience of deindustrialisation regard reindustrialisation as a real challenge.

Furthermore, Tregenna (2013) also states that the manufacturing sector is regarded in some economic schools of thought as having particular characteristics which make it important as an engine of growth. This can also be analogically applied at a regional level. Despite the contribution of the tertiary sector to the employment rate and the incessant growth of GDP in all Czech regions – apart from Prague and Brno metropolitan areas – it holds true that manufacturing is the most important sector for regional economies, with a notable influence on the purchasing power of the population.

While Western Europe and North America view the OIRs in connection with the processes of deindustrialisation, OIR revitalisation in post-communist countries takes place, with the only permissible exception being the metropolitan areas, by means of the process of reindustrialisation, as confirmed by Krzysztofik et al. (2016). According to Krzyszstofik, reindustrialisation is the effect of the expansion and modernisation of some existing industrial plants on one hand, and on the other, of new industrial investments in brownfield and blackfield sites, as well as in greenfield sites. He illustrates this with the example of automotive manufacturers in Poland, where the DFI has led to the modernisation of an already existing automotive manufacturer (Fiat Auto Poland) and construction of a new automotive manufacturing plant in Gliwice (Opel) in the OIR of Katowice conurbation. A similar scenario occurred in the period of transformation of the Moravian-Silesian Region, where the Tatra truck company had to undergo a painful privatisation process and (successful) revitalisation. At the same time, the region received foreign investment from the Korean

Hyundai automotive manufacturer. The Ústí Region has also been the benefactor of foreign investments, the majority of which belongs, branch-wise, to the automotive industry (Hlaváček 2009). This fact thus also practically confirms the presence of the process of reindustrialisation within the second region analysed.
The localisation of the plants of automotive manufacturers within Central Europe is hardly aa unique occurrence. Automobile manufacturing grew in Central and Eastern Europe from 1.6 million units in 1994 to 5 million in 2008 (Pavlínek & Ženka 2011). In per-capita terms, the world's highest number of new vehicles has long been produced in Slovakia. Czechia ranks second.
The spatial concentration of the automotive industry in Czechia was assessed by Pavlínek & Ženka (2010), who concluded that a quarter of micro-regions are over-specialised in the automotive industry. In a follow-up paper (2013), both authors categorised micro-regions according to their position within global automotive production networks. Their findings are in line with the conclusions made in this paper. In the Ústí region, second-tier suppliers predominated, and in the Chomutov and Kadan micro-regions even third-tier suppliers. On the other hand, in the micro-regions of the Moravian-Silesian region, the micro-regions with the dominance of first-tier suppliers, i.e. with a much more prestigious position within the global production networks of the automotive industry, prevailed.

5 Conclusion

Since the 2008–2010 global economic crisis, the automotive industry has played an increasingly prominent role in Czech OIRs. While overall manufacturing employment in the Moravian-Silesian and Ústí Regions remained stable from 2007–2021, the automotive sector expanded significantly. This indicates a trend of reindustrialisation rather than deindustrialisation, aligning with patterns in other post-communist Central European OIRs.
Reindustrialisation has helped replace jobs lost in traditional industries. Despite higher-than-average unemployment rates compared to the national level, both regions remain in line with broader European standards. However, challenges persist: labour productivity in Czechia's automotive industry lags behind Germany, and the sector remains largely peripheral, dominated by low-value sub-suppliers controlled by Western and North American firms.
Stronger economic performance could be achieved by attracting final-product manufacturers. The Moravian-Silesian Region has an advantage due to Hyundai's presence, which spurred investment and job growth. In contrast, Ústí Region's reliance on profitable brown coal mining slows the transition to manufacturing jobs. Despite Moravian-Silesia's higher economic activity, wages in the automotive sector are similar in both regions. Wage growth in Ústí is influenced by Prague and the German labor market, while Moravian-Silesia faces competition from Polish workers. The automotive industry emerged as a key sector in Ústí Region earlier than in Moravian-Silesian Region, yet its impact varies. Foreign investments in Ústí Region show weaker performance compared to Moravian-Silesian Region. Furthermore, employment growth within the sector between 2007–2021 was highly uneven at a micro-regional level.
The findings from the Czech OIRs highlight a broader lesson on industrial transformation in post-communist economies, underscoring the significance of reindustrialisation over deindustrialisation. While the automotive industry has played a crucial role in maintaining employment, regional disparities persist, shaped by historical economic structures, investment attractiveness, and labour market dynamics. The case of the Moravian-Silesian Region demonstrates that direct investment from final-product manufacturers can serve as a catalyst for regional economic revitalisation, attracting a network of sub-suppliers and accelerating job creation. However, the Czech automotive sector still lags behind in labour productivity and remains largely integrated into global supply chains as a low-value-added sub-supplier, reinforcing a peripheral economic status. To enhance economic resilience and long-term prosperity, policymakers should focus on fostering domestic innovation, incentivising higher-value production, and strengthening regional investment policies to ensure a more balanced industrial evolution across Czechia.

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