

12 Industry in the Carpathian area

12.1 Industrial typology of the Carpathian regions

Central European space examined in the scope of research demonstrates a high degree of heterogeneity in all respects; industry being one factor among several. As elsewhere, development gradients apply, showing a shift from more advanced activities concentrated in regions closer to the core of Central Europe (the Czech Republic, Austria and Southern Germany), and less advanced ones in the eastern border areas. The predominant gradient progresses from west to east, going in a southwest-northeast direction in Poland, and in a northwest-southeast one from Hungary to Romania and Serbia. Added to this is differentiation along the urban dimension, with metropolitan (capital) regions benefiting from agglomeration economies, as well as a high concentration of know-how, R&D activities and advanced financial services. Except for the Katowice conurbation in Upper Silesia and Kraków in Lower Poland, all of these double as capital regions. The next level of the urban network, the large cities, which are regional centres, they are in turn followed by small towns, the most typical non-rural settlement type in under-urbanised Central Europe. Generally, an industrial typology can be constructed along these two axes (*Table 23*).

Highly urbanised core regions have undergone significant tertiarisation since the transition. While a growing emphasis on the service economy is a global phenomenon, Central European post-socialist states experienced it at an accelerated rate during the transition from industry-oriented planned systems to market economies. Central regions were at the forefront of the change; while they were previously among the most significant industrial regions⁴, the 1990s brought a rapid downsizing and the disappearance of large firms as business (among them financial) and consumer services replaced industry as the prime engines of growth. The main question regarding industry was the question of its heritage – i.e. brownfield redevelopment and combating unemployment. Nevertheless, while the concentration of industrial employment has declined or stagnated in metropolitan areas, they have been successful in keeping some of the most advanced sectors, especially in knowledge-intensive fields such as pharmaceuticals, electronics, optics and certain types of chemistry. The supporting R&D framework is another major advantage; public and private research institutions are overwhelm-

⁴ In 1971, the territory of Central Hungary concentrated 40% of national industrial employment and 32% of investments. By 1991, this had changed to 29% and 30%, and by 2004 to 26% and 25%, respectively. In the same interval, Bucharest went from concentrating 18% of employment and 14% of investments to 13–11% in 1991 and to 13% of employment in 2004 (no data on investment concentration was available for that year).

ingly established in metropolitan areas, while it is much less common in regional centres and almost completely absent below this level. Slovakia and Hungary show the highest degree of concentration here, whereas Poland, the Czech Republic, Romania and Ukraine have their (relatively speaking) significant lower level of regional centres.

Table 23

Industrial typology in Central Europe

		Geographic gradient	
		Core	Peripheral
Urbanisation	Higher	Service economy with high value added industrial branches	Heavy industrial centres, old industrial regions
	Lower	Capital-intensive industry with a high FDI ratio and emerging networks	Labour-intensive small-town and rural industry

Source: Author's construction.

Core regions with a lower urbanisation level – usually on the western borders – benefited most from Foreign Direct Investment transfers. We can see this most clearly in the Austria–Slovakia–Hungary cross border area, which has become a recipient of machine industry investments. It is notable that unlike metropolitan core regions, these areas lacked autonomous research, development and control functions; their prime advantages being good accessibility, competitively priced yet well-qualified human resources and an already established industrial milieu. These advantages were fundamental in the first waves of capital inflow. With increasing labour costs, and the catching up or reindustrialisation of more eastern regions, their role had been gradually diminishing. *Domański* (2003) argues that there is presently a shift from ‘costs’ to ‘markets’: cost advantages are replaced by factors such as market access, the quality of local services, the availability of skilled workforce and so forth.

Yet these factors are in themselves insufficient to maintain the current growth dynamics. It has been argued (e.g. by *Turnock* 2001, *Csizmadia – Grosz* 2002, *Worrall – Donnelly – Morris* 2003, *Grosz – Rehnitzner* 2005) that local production systems and encouraging innovation are the long-term guarantees of retaining competitiveness. Supplier networks, industrial clusters and the institutional background encouraging their formation (industrial parks, incubation centres, etc.) were priorities for state industrial (and occasionally regional) policies, both to encourage the location of new industrial investments, and to increase the embeddedness of already existing capacities. In multiple cases (e.g. Western Trans-

danubia in Hungary), local and regional administration showed a better ability to manage these low-level systems than central intervention; in the federal state of Austria, regions already have the competences required for these tasks.

Old Industrial Regions generally take a *peripheral spatial position but have a high urbanisation level* due to development dating back to the 19th century or socialist industrialisation policy (planned cities such as Nowa Huta, Tiszaújváros or Ózd belong to this latter category). Here, transformation's consequences were often industrial depression as monofunctionality, the loss of markets and the inability to compel large-scale producers to downsize or close down. Urban centres with a strong chemical industrial base were more successful at weathering the crisis, while metallurgy suffered worse and military industry was even harder hit.

The causes of depression, and policy responses attempting regeneration, are close to Western European antecedents; the main differences were the extent of the problems (due in part to the delay in their management) and the regional context. Monofunctional industrial structure often coincides with peripherality, as heavy industrial plants were preferentially located in low-developed regions as a policy instrument. With the decline of traditional sectors, these deficiencies were once more brought into light. Coal and steel regions like the Jiu valley, Borsod-Abaúj-Zemplén County or Košice in Eastern Slovakia are typical examples. Ukrainian regions, whose centres are large cities⁵ surrounded by under-urbanised peripheral areas, showed these symptoms to an even greater extent, as their economies were linked to production systems supplying the entire Soviet Union.

Industrial regeneration led to mixed results. Growth based on traditional sectors has been most notable in Upper Silesia (where it is coupled with investments into machine, especially automotive industry, as well as advantages stemming from the US conurbation's metropolitan character), but also this is where companies could modernise their technology, invest in process innovation and possibly diversify into higher-end products. Alternative activities based on the local knowledge base also produced good results, and the presence of strong secondary and tertiary technical education had a positive influence (e.g. in Ostrava or Katowice). However, the main feature of industrial development in urbanised peripheral regions is still de-industrialisation, where services are incapable of replacing the economic role of industry. De-skilling, the loss of qualified human resources to low replacement and out-migration, precludes redevelopment and menaces with conserving the peripheral character of the areas under scrutiny. Similar phenomena are noticeable in Borsod, Eastern Slovakia and several Romanian counties.

⁵ Lviv has 860,000 inhabitants, Chernivtsi 242,000 and Ivano-Frankivsk 204,000. Uzhgorod, with 111,000 inhabitants, is the smallest of them, and is closer to the under-urbanised peripheral type.

The final industrial profile is found in *under-urbanised peripheral regions*. It may describe entire administrative units such as Transcarpathia, Ukraine, or encompass areas distant from regional centres. They have always been underdeveloped, located away from core areas and capital cities. Their industrialisation, typically in the second half of the 20th century, was a conscious decision on the part of development policy to modernise their economies. Since resources were scarce and the main social problem to be solved was unemployment, labour-intensive branches in light and food industries became the typical form of investment. These were created with modest capital expenditure, but they were able to soak up labour surplus. While most of industry in the Carpathian area is semi-peripheral in the world economy, these areas saw peripheral industrialisation even in the national context, carrying over to the post-transformation period.

Peripheral industry, located in small towns and large villages, has been showing continuing signs of stagnation. Undercapitalisation, fragmentation and market loss remain persistent problems (although the process is more gradual than the rapid collapse of heavy industry), while the local labour market also shows signs of weakness. However, it is possible to see a resurgence of light industry branches, notably textiles, on the eastern peripheries of Central Europe. Surviving companies have sometimes been successfully integrated into continental production networks; progressing from simple assembly to own brand and own design manufacturing. This trend is most strongly noticeable in Ukraine and Eastern Slovakia; Poland's largest textile centre, Łódź, is outside the current study area. Peripheral regions had also been locations of subsidiaries and production sites for larger industrial companies in the past (Hungary and Poland pursued industrial deconcentration policies to this effect from the 1960s and onwards), but the majority of these have since folded or greatly reduced operations. Romania, Ukraine and Serbia show better survival rates, or more precisely attrition by gradual erosion instead of an initial transformation shock.

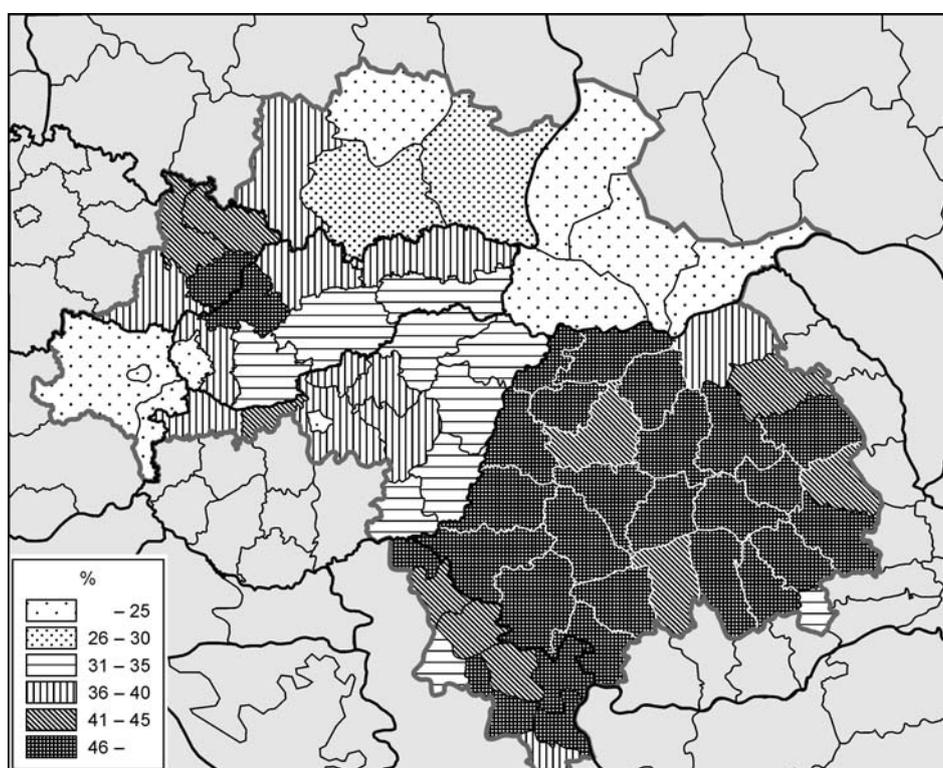
12.2 The changing spatial structure of industry in the Carpathian area

The role of industry in total employment shows a high level of variety in the study area, and is furthermore in contrast with the de-industrialisation process which Central Europe has undergone since transformation. As seen in *Figure 11*, Romanian counties could be considered to be the highest industrialised where employment was concerned, and the same figure would be lowest in national capitals and agrarian districts (c.f. the Hungarian Great Plains, Southern Slovakia and Poland's Świętokrzyski region). On the other hand, Romania also experienced the highest

level of de-industrialisation after 1990–1991.⁶ Therefore, it is likely that a high proportion of the secondary sector in peripheral regions or districts reflects an absence of job opportunities in others. Old Industrial Regions are the opposite: here, the highly developed urban network provides a better base for tertiary development, and consequently, many of them are no longer leaders in their own countries.

Figure 11

Industrial employment, % of total (2004)



Source: National statistical yearbooks.
Ukraine – 2005.

⁶ On the national level, the number of industrial employees in 2004 reached 100% of 1990–1991 figures in Slovakia, 94% in the Czech Republic, 67% in Poland, 64% in Hungary, 50% in Serbia and Montenegro, and last 48% in Romania.

Diverse industrial branches follow different patterns of distribution. Mining and quarrying, which has seen dramatic decline, is to be found in a few large concentrations (especially Upper Silesia, Gorj, Prahova and Dâmbovița) as high costs and shrinking demand made it uneconomical to preserve small capacities. Except Upper Silesia, mining areas are modestly urbanised and have a peripheral character.

Larger metallurgical units are located in the urban centres of Old Industrial Regions (Borsod-Abaúj-Zemplén County in Hungary, Eastern Slovakia, Moravian Silesia, Upper Silesia, Hunedoara and Reșița). All of them have experienced waves of downsizing (and in the case of Ózd and Miskolc in Hungary, close to complete dissolution), but those that remained are being integrated into global production networks and benefiting from increasing demand. In the case of smaller, scattered combines in Ukraine and Romania, this process has not yet been significant. Chemical industry's patterns are similar, but they, especially petrol chemistry, have been rather able to adapt themselves to market demands, and declined less.

As opposed to metallurgy, the distribution of machinery production has become more even; while the former became more concentrated because of closures, the latter was one of the primary targets of FDI transfers, leading to the growth of previously smaller community close to the western borders (e.g. Győr-Moson-Sopron, Komárom-Esztergom, Trnava and Trenčín). So far, continuities have been stronger than change. An examination of Central European location trends in the automotive industry (*Worrall – Donnelly – Morris, 2003*) proves that inherited capacities are still dominant; and even new investments are located in regions with a strong tradition in machine manufacturing.⁷

High value added and knowledge-intensive industries are almost purely metropolitan, although some manufacturing functions have been also located in under-urbanised core regions and, more recently, in Old Industrial Regions as well. In addition to agglomeration economies, the availability of a highly qualified workforce, R&D and advanced business services is crucial.

Textile and clothing (footwear etc.) industries are predominantly peripheral (a traditional branch of small towns) or to be found in Old Industrial Regions, where they were located to reduce hidden unemployment among women. Presently, rising labour costs are resulting in their decline in western regions, while restructured combines on eastern peripheries are, again, starting to grow. Finally, food industry's distribution can be considered even; naturally, its role is stronger in regions where other branches are weak or not present.

⁷ Greenfield sites were in the 1000 to 4000 range, with regards to the employment greatly outstripped by Dacia in Pitești (21,000), Bielsko-Biała (14,500) and Tychy (7,200).