FACULTY OF INTERNATIONAL RELATIONS

Book review

PAVLÍNEK, Petr (2025): Europe's Auto Industry Global Production Networks and Spatial Change. Cambridge University Press.

9th May 2025, Belgrade, Serbia
SHIFTing Gears: The Future of Electric Car Production in CEE Countries

Petr Procházka

Prague University of Economics and Business

1. Personal introduction

About our school

- Public university
- One of best business colleges in CEE Region (Financial Times)

- 21st Century competencies development
- Quality PhD study
- Connection to private businesses
- Digital teaching transformation (EU RRF)
- Internationalization

AACSB ACCREDITED

VŠE

Values

The VŠE mission is based on the following values:

- long-term efforts to achieve high quality pedagogical, scientific and research activities;
- internationalization of academic environment as a fundamental prerequisite of competitiveness of students and academic staff;
- development of academic fellowship whilst respecting academic freedoms and self-government;
- traditional moral values of the free and democratic society;
- responsibility toward the society and its sustainable socioeconomic development.

Vision

The aim/vision of the VŠE is to assume the role of a leader in the market of managerial, economic and informatics education in Central European countries. The VŠE wants to be a sought-after research university respected internationally providing elite Bachelor´s, Master´s and doctoral education in managerial, economic, informatics and other relating areas at all faculties as well as excellent programmes of life-long education designed for top managers. The VŠE wishes to produce graduates who will possess a potential to strengthen, within their professional activities, the wide social, moral, and environmental responsibility in the society.

Department of International Business

EIBA 2027 candidate

yearly conference “Central and Eastern Europe in Changing Business Environment” (24th)

Research streams:

- International retail and consumer behavior
- Intercultural management
- International marketing and branding
- Financial Strategies in International business
- International Business Operations

Petr Procházka

- FIR of VŠE - PhD & research assistant
- Moving industry – 9 years
- ESG Specialist at Gosselin (Antwerp, BE)
- Visiting researcher (RSM, Rotterdam, NL)
- EFRAG secondment in-kind (Brussels, BE)

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- International business operations
- Current trends in global logistics
- ESG in value chains
- ESG strategy and business transformation
- ESG reporting
- Supply chains and operations

Research projects / streams

- ESG in logistics / value chains
  - supply chains of electromobility (Visegrad fund)
  - carbon calculation in value chains (Siemens)
  - ESG reporting governance - directors (RSM)
  - ESG reporting governance - suppliers (RSM)
  - ESG reporting and resilience (RSM)
  - tax optimization (PhD)

2. Introduction of the author

prof. Petr Pavlínek

Scopus ID: 6603561184

ORCID: 0000-0003-2799-1230

Google Scholar h-index: 30

Google Scholar total citations: 4392

Scopus h-index: 23 (out of 41 publications)

Scopus total citations: 1680

Background

Education

M.A., Charles University

RNDr., Charles University

Ph.D., University of Kentucky

Winter semester: in-person teach at University of Nebraska

Summer semester: in-person teach at Charles University in Prague and online teach at University of Nebraska

Promoter of short name “Czechia”

Research

Research focus:

Charles University in Prague: The regional economic effects of foreign direct investment, the development of the automotive industry in East-Central Europe and its effects on regional development, and the spatial division of labour in the European automotive industry

University of Omaha: economic geography, political geography, regional restructuring, political economy, political ecology, transition in Central and Eastern Europe

PhDs:

Ongoing PhD projects: Changes in the international division of labour and spatial structure of the European automotive industry since 1990 (Tomáš Michl);
The development of the automotive industry and its regional effects in developing countries: The case study of Iran (Bahareh Mostofian);
Regionální dopady rozvoje průmyslových zón v Česku (Regional development effects of the growth of industrial zones in Czechia) (Jana Hana).

Completed PhD projects:

Global production networks and labour: Trade unions in the automotive industry in Czechia and Slovakia (Monika Martišková);
Industrial upgrading and regional development—Czech automotive industry (Jan Ženka).

Books

1. Economic Restructuring and Local Environmental Management in the Czech Republic (1997)
2. Environmental Transitions: Transformation and Ecological Defence in Central and Eastern Europe (with John Pickles, 2000)
3. A Successful Transformation? Restructuring of the Czech Automobile Industry (2008)
4. Dependent Growth: Foreign Investment and the Development of the Automotive Industry in East-Central Europe (2017)

Most cited papers

NÁZEV	CITACE	ROK
Regional development implications of foreign direct investment in Central Europe P Pavlínek European urban and regional studies 11 (1), 47-70	364	2004
Industrial upgrading through foreign direct investment in Central European automotive manufacturing P Pavlínek, B Domański, R Guzik European Urban and Regional Studies 16 (1), 43-63	313	2009
Upgrading in the automotive industry: firm-level evidence from Central Europe P Pavlínek, J Ženka Journal of Economic Geography 11 (3), 559-586	287	2011
Environmental transitions: transformation and ecological defense in Central and Eastern Europe P Pavlínek, J Pickles Routledge	248	2002
Internationalization and embeddedness in East-Central European transition: The contrasting geographies of inward investment in the Czech and Slovak Republics P Pavlínek, A Smith Regional studies 32 (7), 619-638	229	1998
Global production networks, foreign direct investment, and supplier linkages in the integrated peripheries of the automotive industry P Pavlínek Economic Geography 94 (2), 141-165	199	2018
The Internationalization of Corporate R&D and the Automotive Industry R&D of East-Central Europe P Pavlínek Economic Geography	191	2012

Most recent papers

NÁZEV	CITACE	ROK
Europe's Auto Industry P Pavlínek Cambridge Books		2025
Geopolitical decoupling in global production networks P Pavlínek Economic Geography 100 (2), 138-169	16	2024
Agile Against Lean: An Inquiry into the Production System of Hyundai Motor: By Hyung Je Jo, Jun Ho Jeong, and Chulsik Kim. Singapore: Palgrave Macmillan, 2023. P Pavlínek Economic Geography 100 (1), 104-106		2024
EUROPE'S AUTO INDUSTRY: Global Production Networks and Spatial Change P Pavlinek CAMBRIDGE University Press	1	2024
Branchenanalyse Automobil-und Automobilzulieferindustrie in Mittelost-und Südosteuropa: Vor der Transition zur Elektromobilität M Krzywdzinski, B Domański, Ş Guga, K Gwosdz, J Kubisa, K Lukáčová, ... Working Paper Forschungsförderung		2024
Environmental pasts/environmental futures in post-socialist Europe P Pavlínek, J Pickles EU Enlargement and the Environment, 237-265	85	2023
On the way to electromobility-a green (er) but more unequal future? B Galgóczi, T Pardi, W Schade, I Haug, D Berthold, B Lüthje, W Zhao, ... < bound method Organization. get_name_with_acronym of< Organization ...	3	2023
Transition of the automotive industry towards electric vehicle production in the east European integrated periphery P Pavlínek Empirica 50 (1), 35-73	71	2023

3. Research questions

Book part of a series:

Development Trajectories in Global Value Chains

Series editors:

i.a. Gary Gereffi, Valentina de Marchi

Titles in the series

1. Labour in Global Value Chains in Asia
   Edited by *Dev Nathan*, *Meenu Tewari* and *Sandip Sarkar*
2. The Sweatshop Regime: Laboring Bodies, Exploitation and Garments Made in India
   Alessandra Mezzadri
3. The *Intangible Economy: How Services Shape Global Production and Consumption*
   Edited by *Deborah K. Elms*, *Arian Hassani* and *Patrick Low*
4. Making Cars in the New India: Industry, Precarity and Informality
   Tom Barnes
5. Development with Global Value Chains: Upgrading and Innovation in Asia
   Edited by *Dev Nathan*, *Meenu Tewari* and *Sandip Sarkar*
6. Global Value Chains and Development: Redefining the Contours of 21st Century Capitalism
   Gary Gereffi
7. Gender and Work in Global Value Chains: Capturing the Gains?
   Stephanie Barrientos
8. Monopsony Capitalism: Power and Production in the Twilight of the Sweatshop Age
   Ashok Kumar
9. At the Margins of the Global Market: Making Commodities, Workers, and Crisis in Rural Colombia
   Phillip A. Hough
10. Reverse Subsidies in Global Monopsony Capitalism: Gender, Labour, and Environmental Injustice in Garment Value Chains
    Dev Nathan, *Shikha Silliman Bhattacharjee*, *S. Rahul*, *Purushottam Kumar*, *Immanuel Dahagani*, *Sukhpal Singh*, *Padmini Swaminathan*
11. Television in the Streaming Era: The Global Shift
    Jean Chalaby
12. Europe's Auto Industry: Global Production Networks and Spatial Change
    Petr Pavlínek

Research topic

Changing European automotive industry from the perspective of economic geography by employing the analytical lenses of the global production networks (GPNs) and global value chains (GVCs) perspectives

Restructuring and geographic reorganization of the European automotive industry since the early 1990s by analyzing the driving forces behind this transformation and the regional development effects of these changes.

3. Structure

1 Foreign Direct Investment and Economic Development in Less Developed Countries

2 Revisiting Foreign Direct Investment in Peripheral Regions

3 Foreign Direct Investment and Supplier Linkages in Integrated Peripheries

4 Restructuring and Internationalization of the European Automotive Industry

5 The Core–Periphery Structure of the European Automotive Industry

6 Value Creation and Capture in the Automotive Industry

7 The Transition toward the Production of Electric Vehicles in Eastern Europe

1 Foreign Direct Investment and Economic Development in Less Developed Countries

TABLE 1.2 *Different perspectives on the role of FDI in less developed countries*

	Mainstream perspective	Heterodox perspective	Dependency and world-systems perspectives
Economic growth	FDI leads to economic growth	Economic growth attracts FDI rather than FDI leading to growth. Short-term benefits of FDI but potential long-term negative effects	FDI may lead to short- and medium-term growth but adversely affects economic growth in the long run
Development	FDI is the precondition for a successful development	FDI can be helpful if it is part of a well-crafted long-term development strategy. Dependence on FDI for development is unlikely to lead to a successful long-term development	FDI slows down development in the long run through the transfer of profits abroad, the destruction of domestic firms in the same industry and the suppression of their development
Role of government	Hands-off approach: governments should facilitate FDI but should not regulate or intervene	A targeted and performance-oriented approach: FDI regulation is necessary, strong industrial and FDI policies. Unregulated FDI is harmful for long-term development	Heavy regulation of FDI and limits on foreign ownership, such as foreign ownership ceilings
Spillovers	FDI generates technology and productivity spillovers that benefit the host economy	Spillovers are not automatic but depend on well-crafted industrial policies, performance requirements and the support of domestic firms to increase their absorptive capacity	Spillovers are minimal because FDI is isolated from host economies in foreign enclaves or export-processing zones with no or limited linkages to domestic firms
Jobs and wages	FDI creates "good jobs" for both the workers and host economies	Above-average local wages often paid to poach and maintain the best workers from domestic firms, wage-adjusted labor productivity is high, many low-wage jobs involving poor working conditions	FDI is associated with high levels of labor exploitation: low wages, high pace of work and poor working conditions
Overall FDI effects in less developed countries	Beneficial	Beneficial only if well targeted and regulated within a long-term development strategy	Negative effects predominate, damaging in the long run

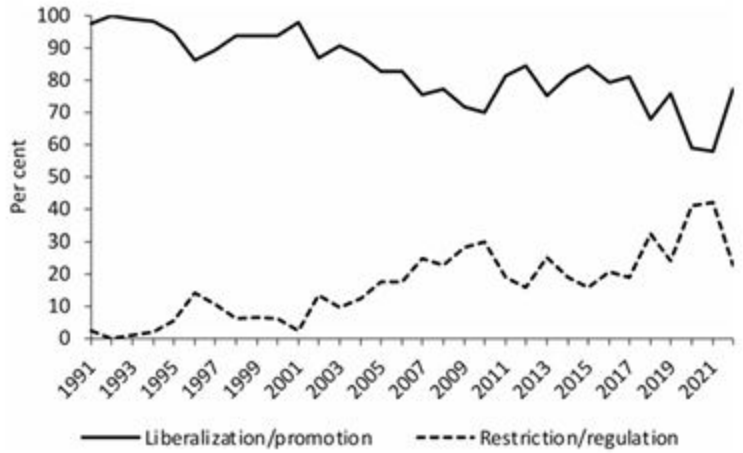

FIGURE 1.3 Regulatory changes in national FDI policies, 1991–2022
Note: Data for 1991–1999 were calculated by using a slightly different methodology and are not thus fully compatible with the 2000–2019 data.
Source: author, based on data in UNCTAD (2005; 2013; 2023).

"Although there is a widespread belief among policymakers that FDI generates positive productivity externalities for host countries, the empirical evidence fails to confirm this belief. In the particular case of developing countries, both the micro and macro empirical literatures consistently find either no effect of FDI on the productivity of the host country f irms and/or aggregate growth or negative effects." (Alfaro et al., 2010)

2 Revisiting Foreign Direct Investment in Peripheral Regions

TABLE 2.1 *FDI in core and peripheral regions*

	Core regions	Peripheral regions
Factors attracting FDI	Large actual or potential markets, higher disposable income Skilled and more educated labor force Innovation capabilities More diversified and technologically advanced economy Competent local suppliers and potential business partners High quality infrastructure Lower transportation costs because of market proximity Better quality institutions (institutional thickness)	Labor surplus Natural resources Lower operating costs based on cheaper factors of production (wages, real estate, land, commercial rents, local taxes) Regional investment incentives lowering start-up sunk costs Often geographic proximity to large core-based markets
Factors deterring FDI	More expensive factors of production (wages, real estate, land, commercial rents, local taxes) Smaller labor surplus, increased labor market competition, potential labor shortages	Less educated labor force and lower labor skills Smaller actual or potential markets, lower disposable incomes Less diversified and technologically less advanced economy Lower quality infrastructure Higher transportation costs Fewer competent local suppliers and potential business partners Low innovation capabilities Weaker and less capable local institutions
Predominant type of FDI	Horizontal (market-seeking)	Vertical (efficiency- and resource-seeking)
FDI linkages	Higher number and intensity of linkages A greater likelihood of developmental linkages More likely positive effects on domestic firms through linkages	Lower number and intensity of linkages, truncation A greater likelihood of dependent and detrimental linkages Less likely positive effects on domestic firms through linkages
FDI spillovers	A greater likelihood of vertical spillovers Higher absorptive capacity of domestic firms	A lower likelihood of vertical spillovers Low absorptive capacity of domestic firms

Source: author.

TABLE 2.3 *FDI and the modes of strategic coupling in GPNs*

	Indigenous coupling	Functional coupling	Structural coupling
Predominant mode of FDI	Outflows	Mixed	Inflows
Predominant type of inward FDI	Horizontal	Mixed	Vertical
Degree of foreign ownership and control	Low	Medium	High
Power position of firms in GPNs	Control	Partnership	Dependency
Number of indigenous lead firms	High	Medium	Low
Capabilities of domestic firms	High	Mixed	Low
Foreign–domestic firms' supply relations	Partnership	Mixed	Dependency
Embeddedness of foreign firms	High	Medium	Low
Predominant FDI linkages	Developmental	Mixed	Dependent
Value capture	High	Medium	Low
Degree of regional autonomy	High	Medium	Low
Regional position in the division of labor	More developed countries	Emerging economies	Less developed countries

Source: author.

3 Foreign Direct Investment and Supplier Linkages in Integrated Peripheries

linkages

- stimulating production and job creation
- stabilizing investments by embedding investors in host economies
- precondition for the transfer of knowledge and technology into host economies

(Blomström and Kokko, 1998; UNCTAD, 2001; Giroud and Scott-Kennel, 2009)

supplier linkages

- developmental vs. dependent vs. detrimental

quality of linkages

- reasons for investment and continuing production
- firm-level research and development
- nature of components supplied by domestic firms

TABLE 3.1 *Spatial zones in core-based automotive industry macro-regional production networks*

	Core	Semiperiphery	Integrated periphery
Foreign ownership and control	Low to medium	High	Very high
Domestic global assembly firms	Yes	No	No
Number of domestic suppliers in the global top 100	High	Low	None or very low
Structure of automotive FDI	Outflows predominate	Mixed	Inflows predominate
R&D: spending, number of R&D workers, patent applications	High	Medium	Low
Structure of assembled vehicles	High share of expensive vehicles	Mixed	High share of cheap/ small vehicles
Structure of produced components	Higher share of technologically advanced components	Mixed	High share of generic and labor-intensive components
Capabilities of domestic suppliers	High	Mixed	Low
Supplier linkages	Predominantly developmental	Mixed	Predominantly dependent
Labor costs per employee	High	Medium to high	Low
Wage adjusted labor productivity	Low	Low to medium	High
Examples	Germany, USA	Britain, Canada	Eastern Europe, Turkey, Mexico, Morocco

Source: author.

TABLE 3.2 *Passenger car production in integrated peripheries, 1990–2015*

	1990 (thousands of units)	1995 (thousands of units)	2000 (thousands of units)	2005 (thousands of units)	2010 (thousands of units)	2015 (thousands of units)	Share of exports in 2015 (%)	Share of global car exports in 2015 (%)	Value of car exports in 2015 (USD billion)
Czechia	188	208	451	594	1,070	1,298	92	2.5	16.9
Hungary	0	51	134	149	209	492	93	1.7	11.2
Poland	266	366	533	540	785	535	99	1.0	6.5
Romania	90	88	77	172	324	387	92	0.5	3.2
Serbia	179	8	11	13	17	82	95	0.2	1.3
Slovakia	0	20	181	218	557	1,039	99	2.1	14.1
Slovenia	74	88	123	138	201	133	99	0.4	2.4
Eastern Europe total	797	829	1,510	1,824	3,162	3,965	95	8.4	55.6
Portugal	60	41	179	189	115	115	96	0.3	2.3
Spain	1,679	2,131	2,366	2,098	1,914	2,219	87	4.9	33.1
Iberia total	1,740	2,172	2,545	2,287	2,028	2,334	87	5.2	35.4
Turkey	168	233	297	454	603	791	73	1.0	6.9
Morocco	0	0	16	8	36	260	98	0.3	1.7
Mexico	720	699	1,279	846	1,386	1,968	82	4.9	32.8
Total	3,424	3,933	5,648	5,419	7,215	9,319	91	19.8	132.4

Sources: OICA (2016) (2000–2015 figures), Ward (2016) (1990–1995 figures), WTEx (2016).

4 Restructuring and Internationalization of the European Automotive Industry

Spatiotemporal fix

TABLE 4.1 *The basic elements of the spatiotemporal fix and conjoining organizational, technological and institutional fixes in the automotive industry of integrated peripheries*

Spatiotemporal fix	Low labor costs
	Sizeable labor surplus
	Weakly organized labor
	Geographic proximity to large markets
	Membership in regional trade agreements or preferential trading arrangements
Organizational fix	Redefined carmaker/supplier relationships
	Internationalization through global and follow sourcing
	Modularization
	Tiering of the supplier base
	Foreign ownership and control
Technological fix	New transportation and communication technologies
	New logistical systems
	Modern transportation infrastructure
Institutional fix	Local content requirements
	Low corporate taxes
	Liberal FDI policies
	Strong investment incentives
	Intense state competition over FDI
	Weak labor legislation
	Local and regional FDI coalitions

Source: author.

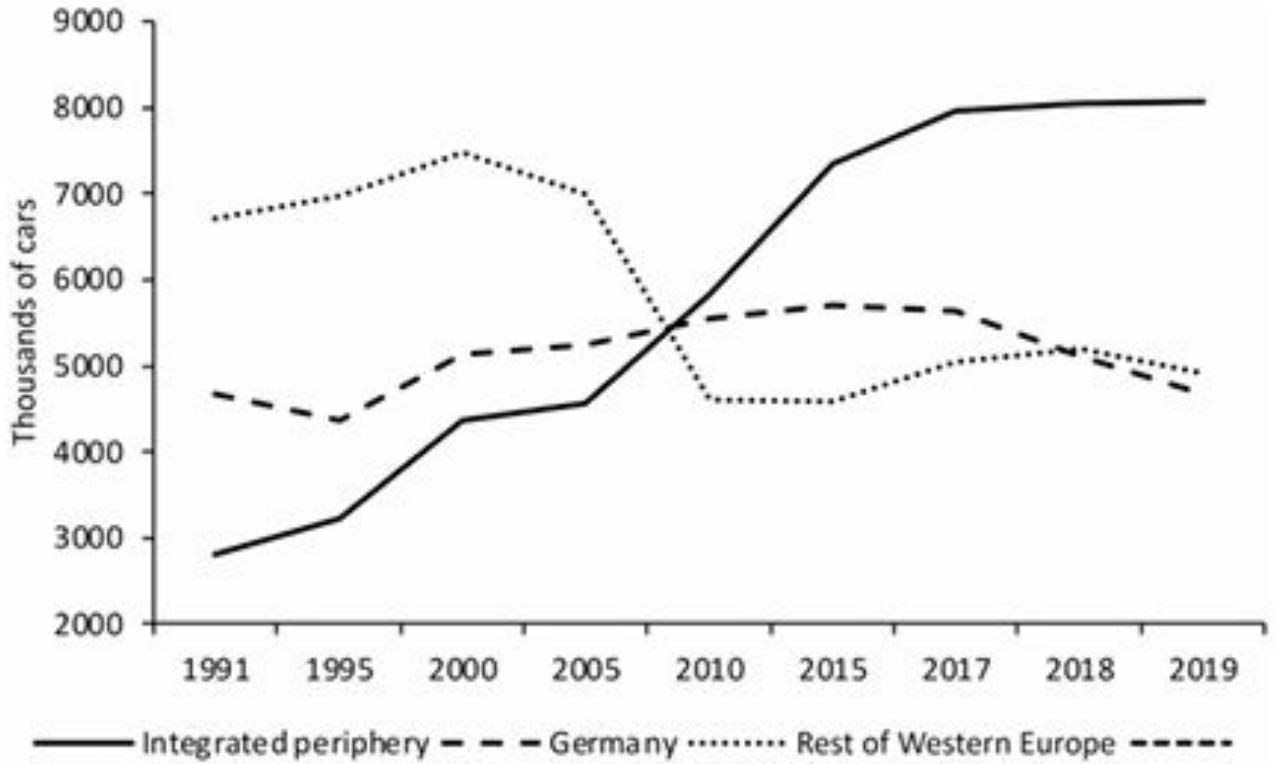

FIGURE 4.1 Car production trends in Europe, including Turkey and Morocco, 1991–2019

Notes: Integrated periphery includes Eastern Europe, Spain, Portugal, Turkey and Morocco.

Source: author, based on data in OICA (2020) (1997–2019 data), USDT (2022) (1991–1995 data) and national statistical offices of individual countries (1991–1995 data).

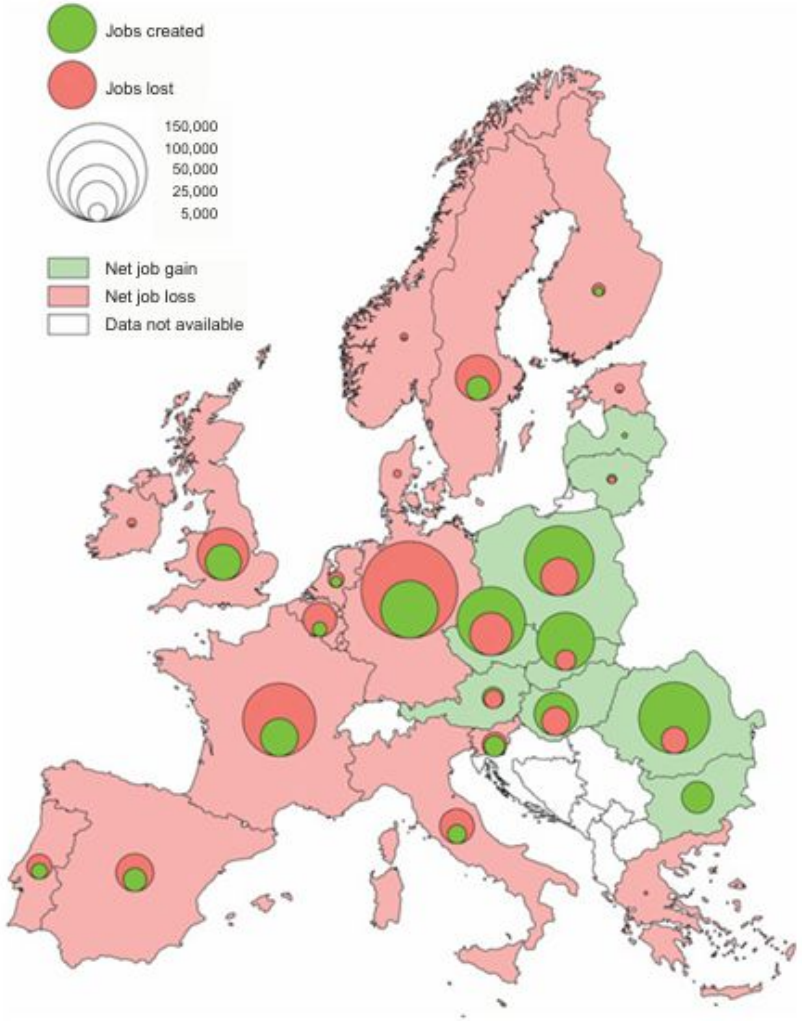

FIGURE 4.3 Spatial distribution of automotive jobs created and lost by large firms in the European Union plus Norway, 2005–2016
Source: author, based on data in ERM (2017).

TABLE 4.3 *Reasons for investment by foreign-owned automotive firms in Czechia and Slovakia*

Reasons for investment	Czechia		Slovakia		Total	
	No.	% of firms	No.	% of firms	No.	% of firms
Low labor costs	43	67	12	41	55	60
Follow sourcing	21	33	13	45	34	37
Acquisition of existing firm	17	27	3	10	20	22
Investment incentives	10	16	8	28	18	20
Skilled labor	10	16	2	7	12	13
Proximity of Germany	10	16	0	0	10	11
Proximity and transportation accessibility of Western European markets	7	11	2	7	9	10
Industrial tradition	7	11	1	3	8	9
Market capture	4	6	2	7	6	7
Access to local know-how and technology	4	6	0	0	4	4

Notes: The number of interviewed firms: Czechia sixty-four, Slovakia twenty-seven. "% of firms" refers to the percentage of interviewed firms. Each firm could list more than one reason for investing.
Source: author's interviews.

TABLE 4.7 *Summary of main restructuring events in the European Union plus Norway automotive industry, 2005–2016*

	Western Europe		Eastern Europe		Total	
	No.	Jobs	No.	Jobs	No.	Jobs
New factory	22	9,569	438	169,238	460	178,807
Expansion of production	240	121,163	364	152,868	604	274,031
Rationalization, job cutting	529	−276,652	170	−65,050	699	−341,702
Plant closure	181	−86,395	41	−15,920	222	−102,315
Plant relocation	50	−14,667	18	−8,516	68	−23,183
Partial relocation	35	−9,480	4	−2,100	39	−11,580
New R&D or technical center	2	355	9	4,425	11	4,780
Expansion of R&D center	7	1,790	7	1,760	14	3,550
New logistics center	0	0	5	550	5	550
New shared services center	0	0	1	180	1	180
New administration unit	0	0	1	500	1	500
Total	1,066	−254,317	1,058	237,935	2,124	−16,382

Source: calculated by author from data in ERM (2017).

5 The Core–Periphery Structure of the European Automotive Industry

- empirical evidence that would support the existence of this spatial hierarchy in the European automotive industry
- determine the position of individual European countries in this hierarchy and in the transnational division of labor
- allow for the analysis of changes in the position of individual countries in this hierarchy over time

core-periphery model (Friedmann)

spatiotemporal fix (Harvey)

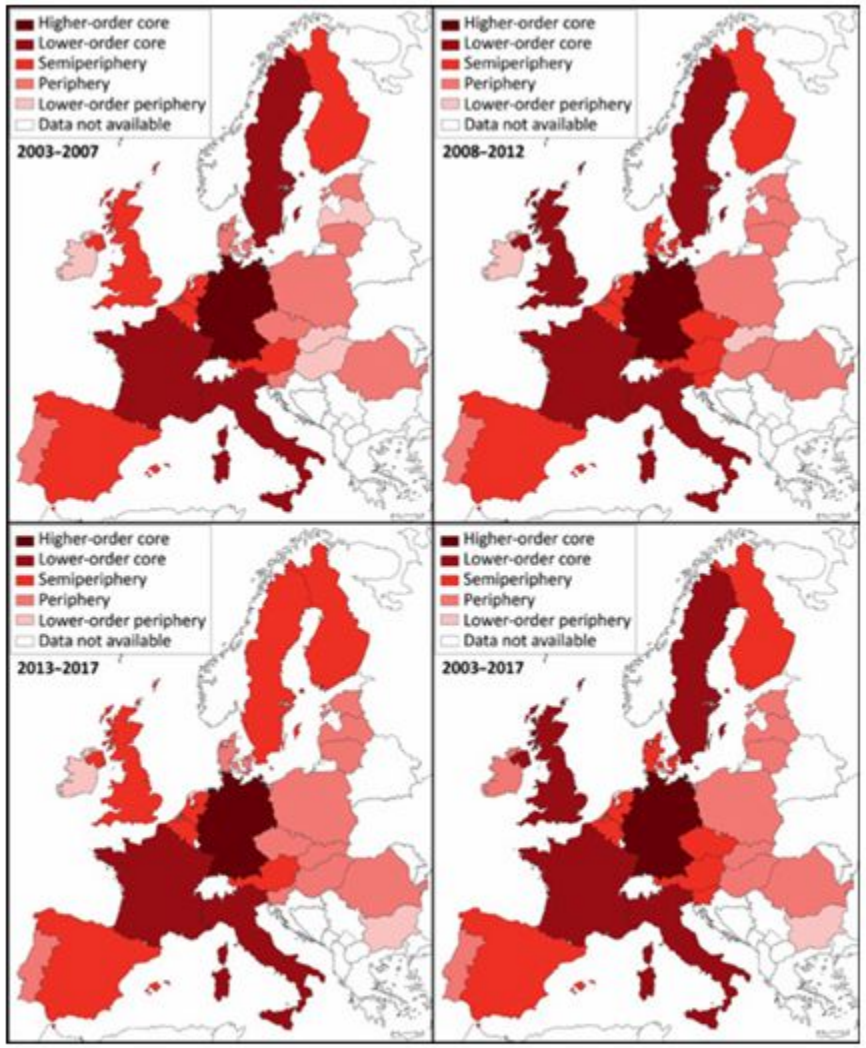

FIGURE 5.2 The core, semiperiphery and periphery of the European automotive industry delimited by cluster analysis based on the natural logarithm of average values of automotive industry power during 2003–2007, 2008–2012, 2013–2017 and 2003–2017

Source: author.

TABLE 5.7 *Index of foreign control in the European automotive industry by country, 2003–2017*

	Average 2003–2017 (%)	Average 2003–2007 (%)	Average 2013–2017 (%)	Rank 2003–2017	Rank 2003–2007	Rank 2013–2017	Change in rank between 2003–2007 and 2013–2017
Germany	14.6	14.1	14.8	1	1	1	0
Italy	20.3	20.8	19.6	2	2	2	0
France	22.8	23.1	23.5	3	3	3	0
Finland	28.4	26.5	29.7	4	4	4	0
Denmark	33.5	34.9	33.5	5	5	5	0
Slovenia	53.7	45.3	63.3	6	6	6	0
Sweden	56.9	52.3	66.1	7	7	8	−1
Estonia	64.5	59.8	66.2	8	9	9	0
Netherlands	68.0	71.0	64.8	9	13	7	6
Lithuania	68.8	56.5	80.9	10	8	14	−6
Ireland	72.6[a]	65.7[b]	79.4	11	10	13	−3
Austria	77.3	72.8	79.4	12	15	12	3
Latvia	78.1	65.8	85.3	13	11	16	−5
Spain	78.4	71.1	86.1	14	14	18	−4
Portugal	79.3	80.4	79.3	15	17	11	6
Britain	80.0	76.7	82.9	16	16	15	1
Belgium	81.0	81.9	79.2	17	20	10	10
Romania	82.8	67.3	91.6	18	12	20	−8
Poland	83.6	80.8	85.6	19	18	17	1
Bulgaria	85.0	81.5	87.8	20	19	19	0
Czechia	91.8	91.2	92.0	21	21	21	0
Hungary	93.1	92.1	94.6	22	22	22	0
Slovakia	95.6	93.1	96.4	23	23	23	0

Notes: [a] 2008–2017 average, [b] 2008–2012 average.
Source: calculated by author from data available at Eurostat (2020c).

6 Value Creation and Capture in the Automotive Industry

1. Do higher-tier firms create and capture higher value than lower-tier firms?
2. Do higher-tier firms possess stronger and more diverse competencies than lower-tier firms?
3. Do higher-tier firms import a higher or lower share of inputs from abroad than lower-tier firms?
4. Do domestic firms import lower shares of inputs than foreign-owned (henceforth foreign) firms?

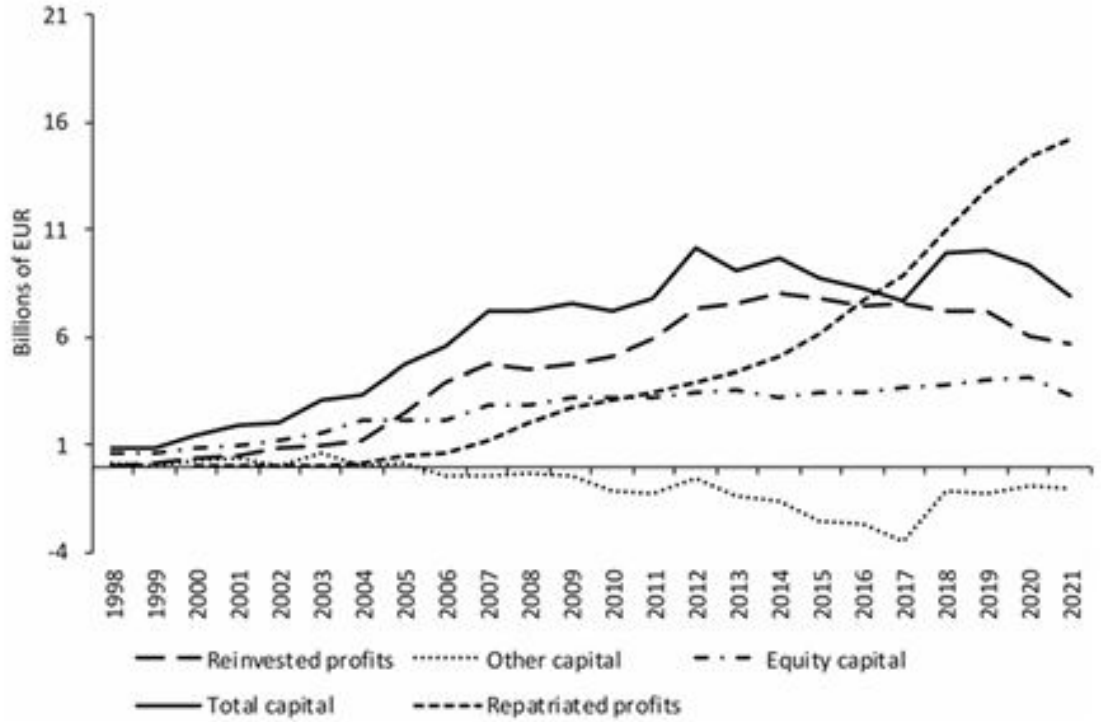

FIGURE 6.1 FDI stock in the automotive industry of Czechia, 1998–2021
Source: author, based on data in CNB (2023).

TABLE 6.7 *The percentage of automotive firms conducting selected high-value-added functions in Czechia by supplier tier, 2009*

Functions and competencies	Assembly (%)	Tier one (%)	Tier two (%)	Tier three (%)
Strategic and marketing planning	42.9	44.0	58.9	67.3
Supplier selection	42.9	52.0	75.0	65.4
Decisions about what will be produced	42.9	48.0	63.6	64.7
Investment decisions	57.1	44.0	60.7	66.3
Market research	71.4	34.8	76.8	65.0
Price-setting for produced goods	71.4	56.0	73.2	67.3
Marketing of subsidiary products	71.4	44.0	67.9	62.5
R&D, design	71.4	58.3	63.6	64.0
Product distribution	71.4	87.5	87.5	69.9
Sale and after-sale services	71.4	59.1	76.8	64.4
Organization of production	85.7	100.0	100.0	91.1
Accounting and financial operations	85.7	100.0	100.0	90.9

Note: The number of firms answering individual questions ranged from 150 (for accounting and financial operations) to 192 (for strategic and marketing planning, decisions about what products will be produced, supplier selection, price setting for produced goods and marketing of subsidiary products).
Source: 2009 author's survey.

TABLE 6.8 *The percentage of automotive firms conducting selected high-value-added functions in Czechia by ownership and supplier tier, 2009*

Functions and competencies	Assembly (%)		Tier one (%)		Tier two (%)		Tier three (%)	
	F	D	F	D	F	D	F	D
Strategic and marketing planning	0	100	33	100	34	92	60	73
Investment decisions	25	100	33	100	38	92	55	74
Supplier selection	0	100	43	100	59	96	55	73
Organization of production	75	100	100	100	100	100	93	90
Market research	50	100	25	100	63	96	54	73
Decisions about what will be produced	0	100	38	100	41	96	56	70
Price-setting for produced goods	50	100	48	100	56	96	57	74
Marketing of subsidiary products	50	100	33	100	50	92	50	71
Accounting and financial operations	75	100	100	100	100	100	92	90
R&D, design	50	100	50	100	45	88	53	71
Product distribution	50	100	85	100	81	96	66	73
Sale and after-sale services	50	100	50	100	66	92	57	69
Average	40	100	53	100	61	94	62	75

Notes: F denotes foreign firms; D denotes domestic firms. The number of firms answering individual questions ranged from 150 (for accounting and financial operations) to 192 (for strategic and marketing planning, decisions about what products will be produced, supplier selection, price setting for produced goods and marketing of subsidiary products).
Source: 2009 author's survey.

7 The Transition toward the Production of Electric Vehicles in Eastern Europe

Limits to Growth Due to Exhausted Labor Surplus

Upgrading and Higher-Value-Added Functions

A Slower Pace of Transition to the Production of Electric Vehicles than in Western Europe

Longer Production of Internal Combustion Engine Vehicles and Internal Combustion Engines than in Western Europe

The Dependence of the Eastern European Automotive Industry's Future on Foreign TNCs

The Continuing Strong Location Advantages for the Automotive Industry in Eastern Europe

Specifics of "Eastern Europe"

1. There are substantially lower labor costs than in the core regions of the European automotive industry (Pavlínek, 2022a), such as Germany, France and Italy, despite a smaller wage gap in 2020 than in the 1990s when wages in Eastern Europe were about 90 percent lower than in Western Europe (Table 7.1).[2]
2. There is a sizeable labor surplus at the initial stages of growth of the automotive industry, which, however, becomes exhausted over time because of the FDI-driven growth of the automotive industry, leading to labor shortages that undermine the future growth prospects (e.g., PwC, 2019; HIPA, 2020).
3. There is geographic proximity to large and lucrative markets in core regions of Western Europe, especially Germany. It lowers transportation costs of automotive products from integrated peripheries to core areas and vice versa and is further supported by the development of modern transport infrastructure in integrated peripheries, such as divided highways and modernized high-speed railways.
4. Membership in the European Union or preferential trading arrangements with the European Union in the cases of non-European Union countries provide tariff-free access to European Union markets.
5. There is a high degree of foreign ownership and control over the automotive industry through FDI, which is the highest in the European Union. It usually exceeds 90 percent for the most important automotive industry countries of Eastern Europe (Table 7.2).
6. An export-oriented high-volume production focuses on standardized cars and generic automotive components, along with low-volume production of niche-market vehicles (Havas, 2000; Pavlínek, 2002d; Layan, 2006). Typically, more than 90 percent of assembled vehicles are exported (Pavlínek, 2018; WTEx, 2021; OEC, 2023).
7. There is regional specialization based on the spatial division of labor resulting from the strategy of complementary specialization (Kurz and Wittke, 1998), in which the integrated periphery has a greater share of low-value-added labor-intensive production tasks compared to the automotive industry in Western Europe (Pavlínek, 2002d; Jürgens and Krzywdzinski, 2009a; Stöllinger, 2021; Slačík, 2022).
8. There is a weak presence of high-value-added and strategic functions, such as R&D and strategic decision-making, compared to the extent of production functions in integrated peripheries (Tables 7.3 and 7.4, Figure 7.3d) (Pavlínek, 2012; 2016; 2022a; Pavlínek and Ženka, 2016; Stöllinger, 2021; Delanote et al., 2022; Slačík, 2022), resulting in the truncated development of the automotive industry (Pavlínek, 2017b).
9. FDI-friendly state policies, large investment incentives, low corporate taxes and an active state competition over strategic automotive FDI with other countries contribute to a "race to the bottom" in the integrated periphery (Drahokoupil, 2008; 2009; Pavlínek, 2016).
10. Compared to the automotive industry in core countries, especially Germany, labor unions are weaker, labor codes are more liberal and labor practices are more flexible (Jürgens and Krzywdzinski, 2009a; 2009b; Drahokoupil and Myant, 2017; Martišková et al., 2021).
11. The domestic automotive industry is weakly developed compared to the foreign-controlled automotive sector (Table 7.2, Chapters 3 and 4) resulting in the integration of domestic firms into macro-regional GVCs/GPNs at an inferior and subordinate position mainly as low-cost tier-three suppliers of niche products and simple parts and components (Pavlínek and Janák, 2007; Pavlínek and Žížalová, 2016; Pavlínek, 2018).

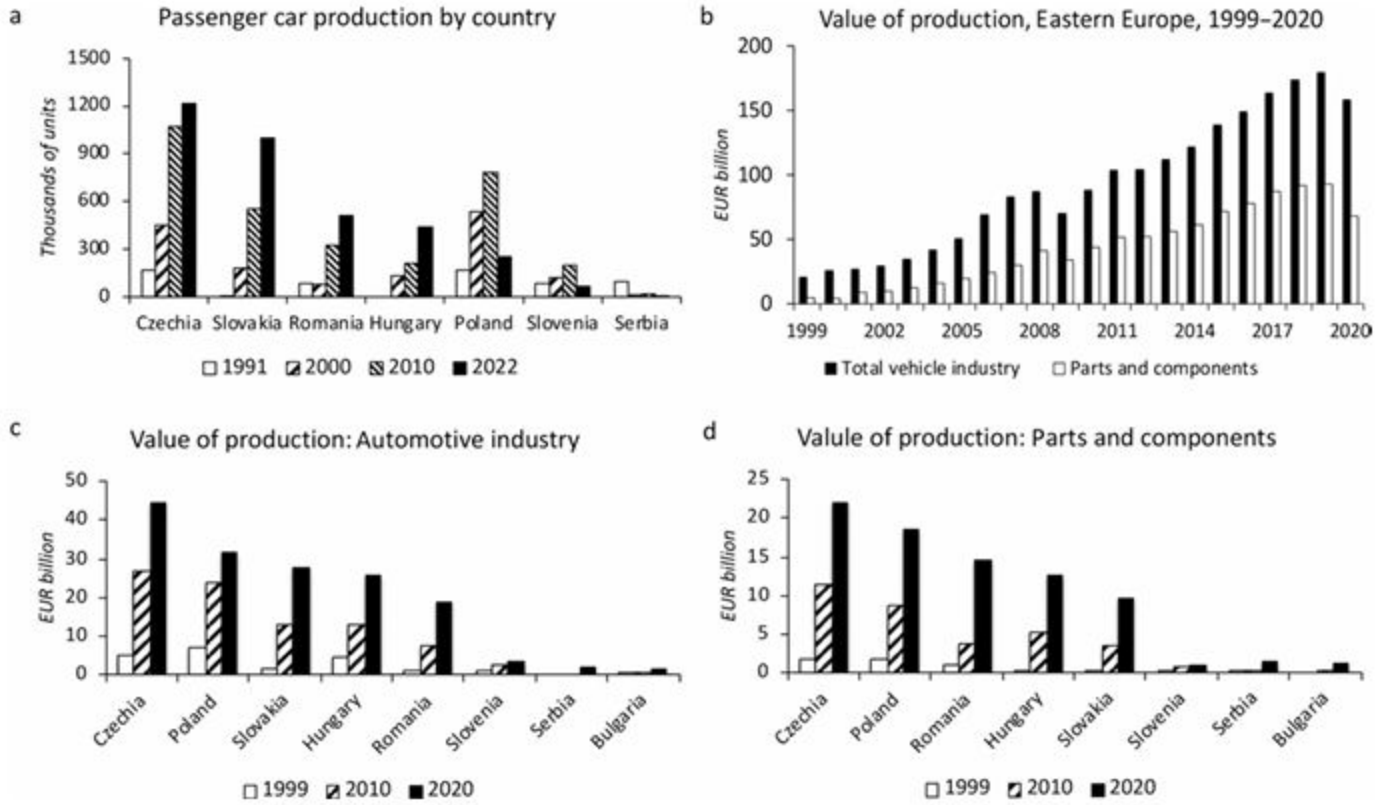

FIGURE 7.2 Car production and value of production in the automotive industry of Eastern Europe
Source: author, based on data in Pavlínek (2002b), Eurostat (2023c), OICA (2023).

TABLE 7.2 *The index of foreign control in the European automotive industry, 2019*

Slovakia	97.9
Hungary	96.3
Romania	94.2
Czechia	93.4
Bulgaria	92.0
Poland	89.7
Spain	85.9
Portugal	84.5
Britain	83.6[b]
Lithuania	83.6
Slovenia	83.3
Austria	80.1
Bosnia and Herzegovina	79.9[a]
Belgium	74.9
Sweden	63.5
Netherlands	58.1[a]
Estonia	57.2
Croatia	54.4[a]
Ireland	49.2
Denmark	44.6
Finland	31.3
Norway	25.1
France	24.1
Italy	23.6
Germany	14.9

Note: The average value of the share of foreign-controlled enterprises of five indicators in the manufacture of motor vehicles, trailers and semitrailers (NACE_R2): production value, value added at factor cost, gross investment in tangible goods, number of persons employed and turnover or gross premiums written.
[a] 2018, [b] 2017.
Source: calculated by author from data available in Eurostat (2022b; 2023c).

TABLE 7.3 *The share of business R&D expenditures of the total value of production in the automotive industry (NACE 29) of selected European countries, 2020*

	Percent	Germany = 100
Sweden	7.42[a]	106.2
Germany	6.99	100.0
Austria	4.88	69.8
Britain	4.54[b]	64.9
Italy	3.37	48.2
France	3.04	43.5
Finland	2.92	41.8
Norway	2.45	35.1
Netherlands	2.10[c]	30.0
Belgium	1.62	23.2
Latvia	1.29	18.4
Slovenia	1.24	17.7
Hungary	1.21	17.3
Poland	1.10	15.7
Spain	1.01	14.4
Romania	1.00	14.3
Czechia	0.90	12.8
Estonia	0.88[a]	12.5
Ireland	0.83	11.9
Lithuania	0.73	10.5
Denmark	0.73	10.5
Portugal	0.46	6.6
Bulgaria	0.27	3.8
Slovakia	0.21	3.0
North Macedonia	0.03	0.4
Greece	0.00	0.0
Cyprus	0.00	0.0
Bosnia and Herzegovina	0.00	0.0
Serbia	0.00	0.0

Notes: [a]2019, [b]2018, [c]2012. The value for Sweden is calculated from the total for NACE 29 and NACE 30 (NACE 29 data not available).
Source: calculated by author based on data in Eurostat (2023a; 2023c).

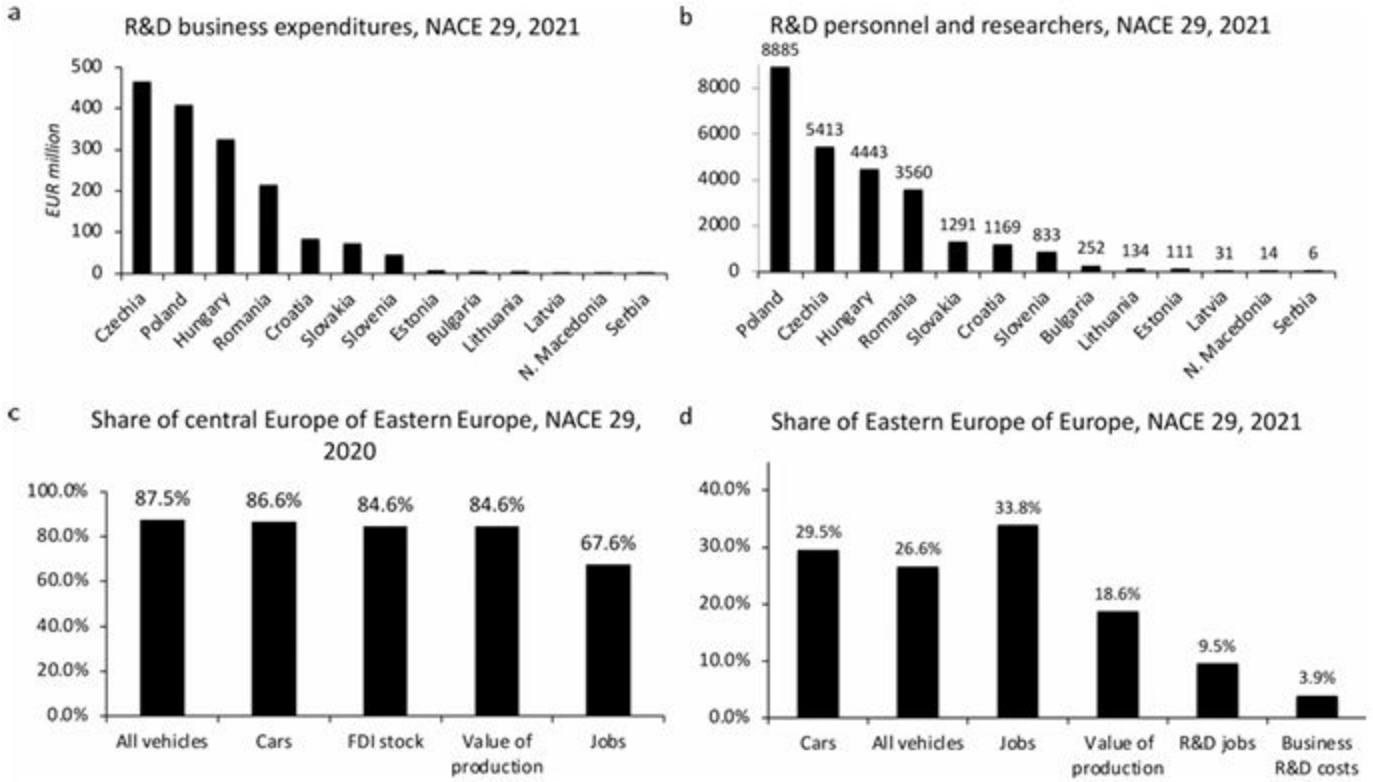

FIGURE 7.3 R&D in the automotive industry of Eastern Europe and regional shares of the automotive industry.
Note: Data for Europe exclude data for Russia, Ukraine, Belarus and Turkey, which are not available.
Source: author, based on data in Eurostat (2023c); OICA (2023).

Why?

product life cycle (periphery)

opportunity for FDI from China and South Korea

4. Future research streams

Based on Petr Pavlínek

- long-term future, competitiveness and sustainability of the automotive industry in Europe
- determinants of success of European automotive firms
- value capture from the automotive industry and its regional development benefits in Europe
- other important trends, including automation, robotics, digitalization (Industry 4.0), autonomous driving and new forms of car ownership

Based on me

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Q&As

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Thank you

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