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Opportunities and challenges for moving-up the value chains in times of turbulence

Experience of Central & Eastern European countries in 2020-2022

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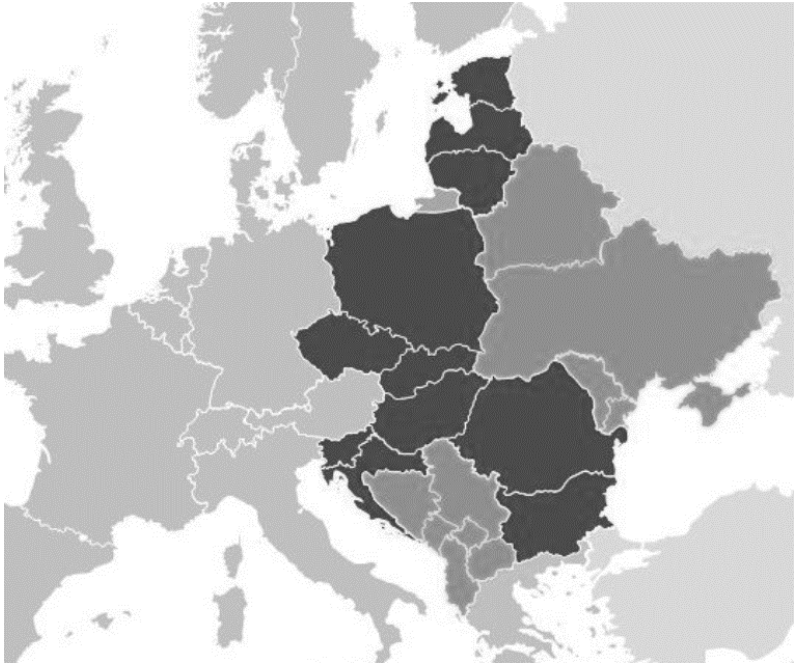
Outline

- CEE countries in global and European value chains
- the impact of external shocks on CEE in GVC
- the challenge of moving up value chains

CEE in GVC short but impresive history

- economic transformation since the early 1990s
- opening up economies to foreign direct investment and international competition
- inclusion of CEE in GVC via MNCs
- proximity to European markets and cheap but educated workforce
- integration with the EU and the inclusion of CEE in the European market/supply chains

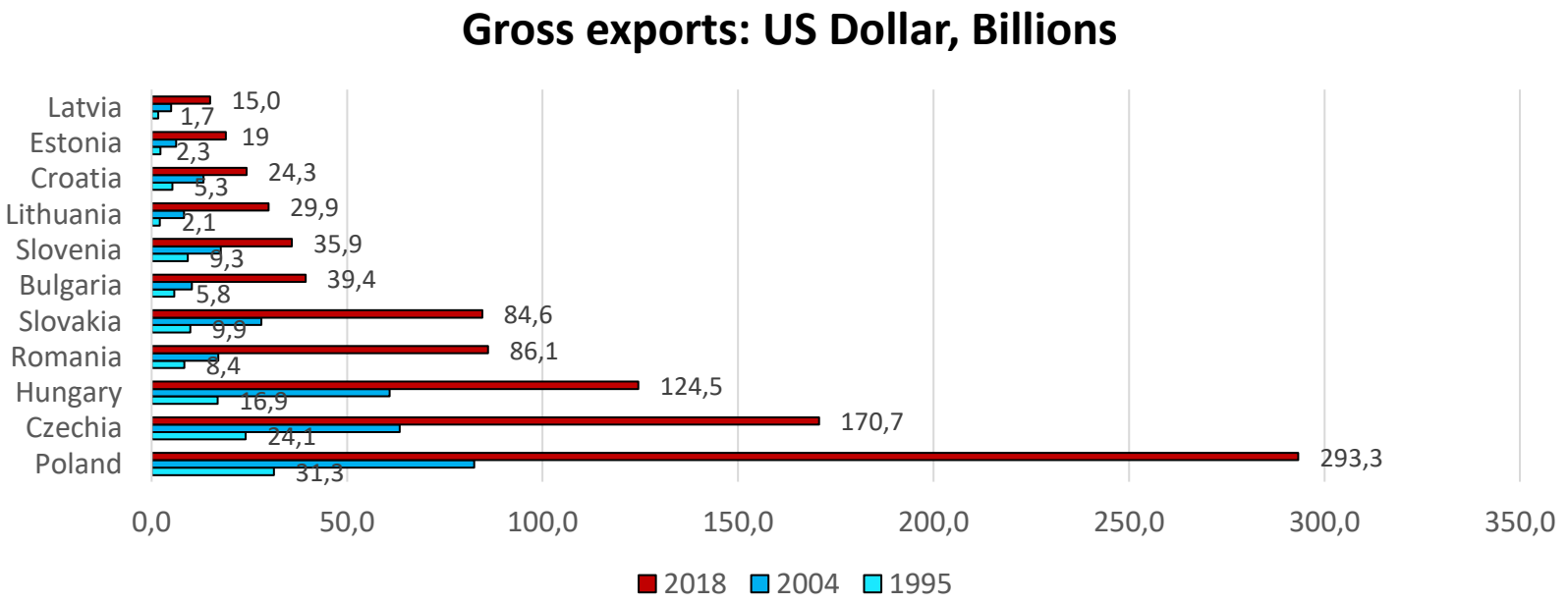


Changing European economic geography

Shifting of economic activity within the EU (especially in manufacturing industries) from some developed Member States of Western and Southern Europe towards CEE, including Germany, Austria, the Czech Republic, Hungary, Poland and Slovakia, and further towards other countries CEE countries belonging to the EU.

German-Central European Supply Chain [see Aiyar et al., 2013]
Central European Manufacturing Core [see Stehrer, Stöllinger, 2014; Stöllinger, 2016; Stöllinger, Hanzl-Weiss, Leitner, Stehrer, 2018].

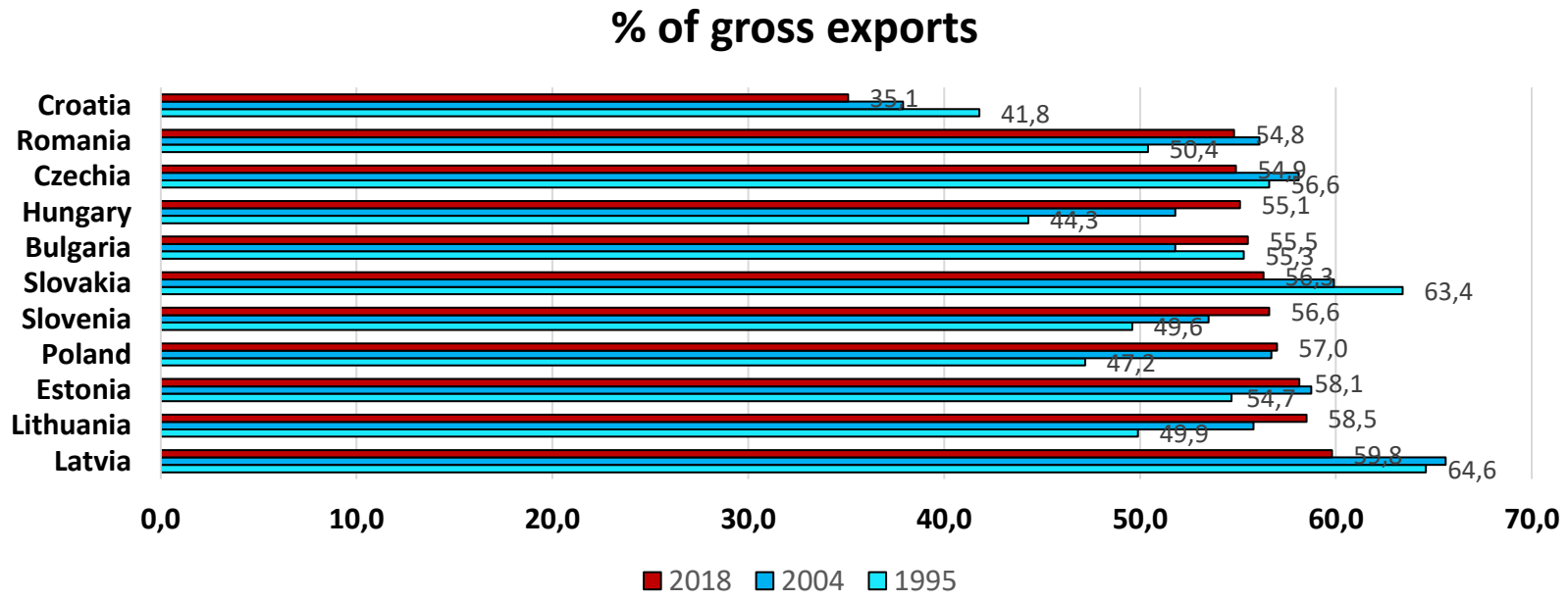
CEE in GVC
Gross exports



Source: OECD, Trade in Value Added (TiVA) 2021 ed

CEE in GVC

Exports of intermediate products



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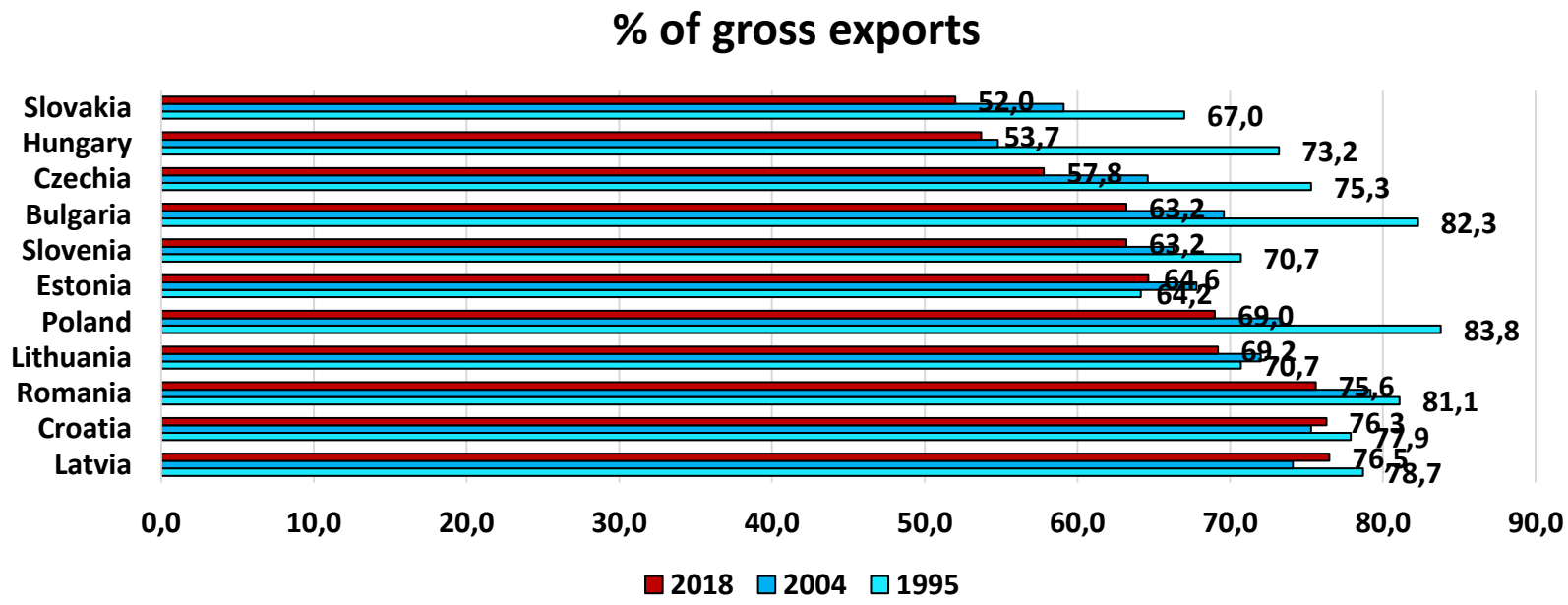
CEE in GVC

Exports of domestic value added



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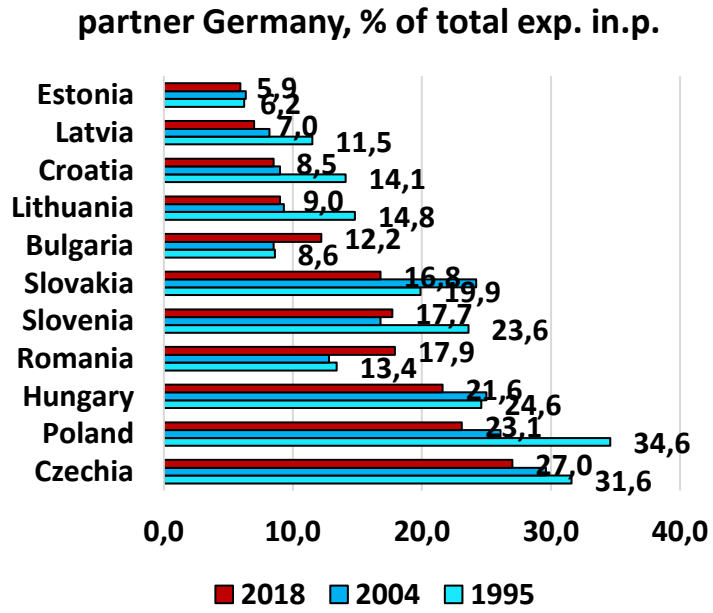
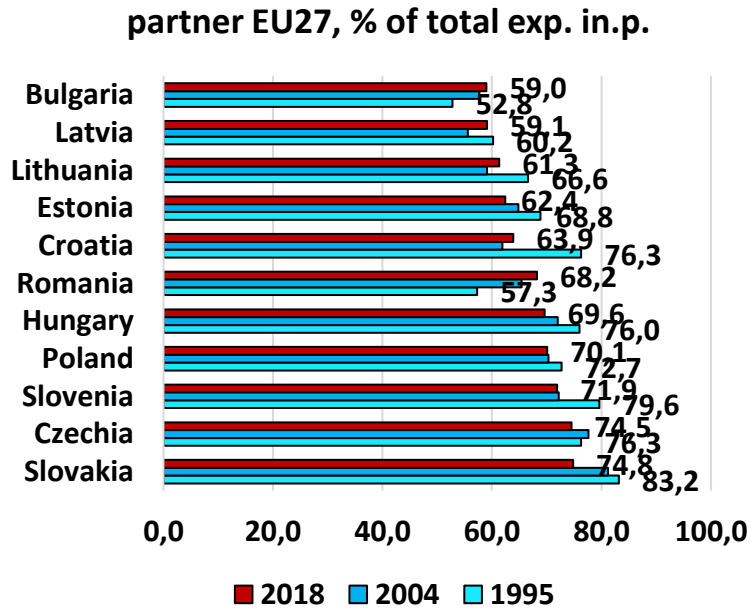
CEE in GVC

Exports of intermediate products





Source: OECD, Trade in Value Added (TiVA) 2021 ed

CEE in GVC

export of domestic value added by industry

	Czechia	Estonia	Hungary	Latvia	Lithuania	Poland	Slovakia	Slovenia	Bulgaria	Romania
Agriculture, forestry, hunting (1-3)	2	3,1	3,5	7,4	5,7	2	2,6	2	7,6	5,8
Manufacturing (10-33)	65,1	43,8	59,5	35,1	43,9	54,8	65,7	57,7	42,8	48,3
Trade and repair (45-47)	8,4	9,4	8,8	12,7	14,2	16,2	11,6	10	12,2	10,1
Transportation and storage (49-53)	8,7	18	9,6	22,4	25,8	10,3	7,5	10,5	10,4	15,9
Hotels and gastronomy (55-56)	2	3,9	2,7	3	1,8	1,7	2	3,9	3,4	1,2
Information and communication (58-63)	3,8	7,3	3,6	4,9	2,3	4,2	2,2	3,6	5,9	5,8
Other business services (69-82)	4,6	7,6	8,9	5,4	3,1	5,6	4,8	5,3	6,3	10,8
Other industries	5,4	6,9	3,4	9,1	3,2	5,2	3,6	7	11,4	2,1

Export of domestic value added is dominated by manufacturing industries... but

- CEE countries that are most strongly linked to the German economy are characterised by higher share of manufacturing industries in export of dva.
- Three Baltic countries with relatively high share of the transport and logistics industries in their export of dva.

CEE in GVC

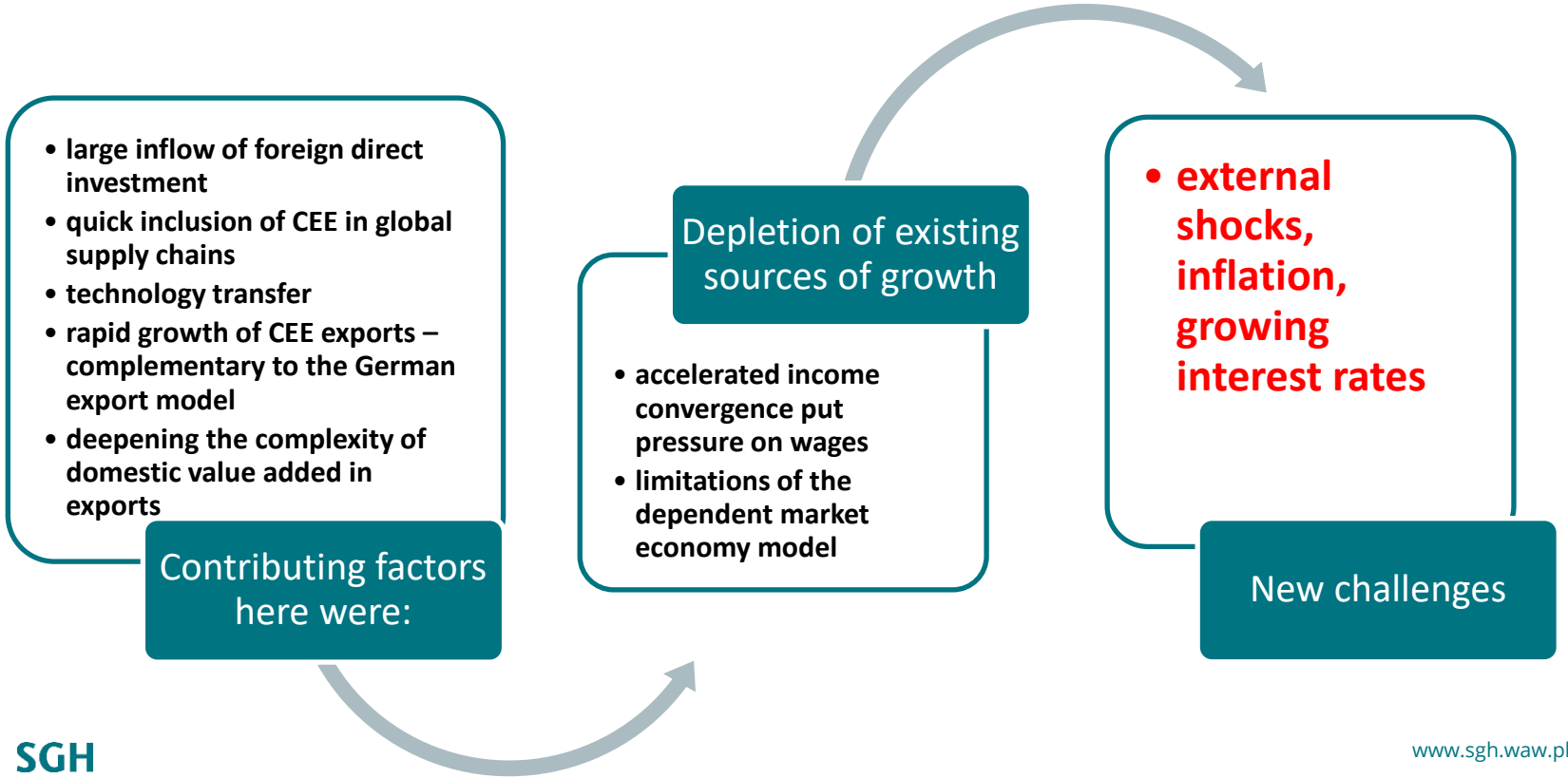
six most important domestic value added exporting industries by CEE country

Significant similarities between the **Czech Republic, Poland, Hungary, Slovakia, Romania and Slovenia** on the one hand, and between **Lithuania, Latvia, Estonia and Bulgaria** on the other hand.

In bigger CCE countries export is less concentrated.

NACE	% export of domestic value added									
	Czechia	Poland	Hungary	Slovakia	Romania	Slovenia	Bulgaria	Estonia	Latvia	Lithuania
Chemicals, pharmaceuticals, rubber and plastics (20-22)	8,1	9,8	10,4	7,6	6,4	15,3	7,9	4,4	2,9	11,3
Metals and metal products (24-25)	7,9	7,3	4,4	10,3	4,4	12,8	13,3	5,2	3,8	
Motor vehicles, trailers and semi-trailers (29)	24,4	8,8	24,2	27,9	9,3	9,4	–	–	–	–
Machinery and equipment nec (28)	6,7	–	5,8	5,5	5,2	4,8	4	–	–	–
Food, Beverage and Tobacco (10-12)		6,9	4,2	–	–	–	6	5,4	6,5	9,3
Computer, Electronic & Optical Products (26)	7	–	9,5	7,7	–	–	–	11	2,2	–
Electrical devices (27)	5,6	5		4,5	6,7	6,6	–	–	–	–
Wood, paper products, printing (16–18)	–	–	–	–	–	4,8	–	10,1	13,3	3,6
Other production (31-33)	–	4,7	–	–	–	–	–	4	2,4	6,6
Textiles, clothing, leather, etc. (13–15)	–	–	–	–	5,2	–	4,7	–	–	2,7
Coke and refined petroleum products (19)	–	–	–	–	–	–	3,7	–	–	11,4

From initial success to new challenges



External shocks

March 2020 – Covid-19 and lockdown policy

- social distancing & lockdowns
- interrupted supply chains
- lower pressure on cost reduction more emphasis on security and resilience of supply chains
- reshoring and regionalization of GVCs

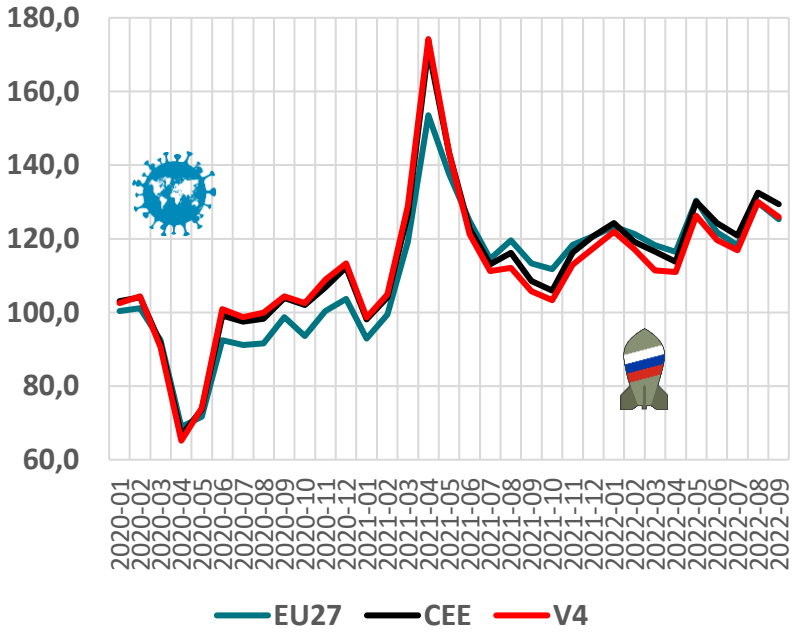
February 2022 – Russian aggression against Ukraine

- growing uncertainty – especially in bordering countries
- growing costs of energy resources
- growing inflation and interest rates
- exchange rates fluctuations
- increased uncertainty in border countries

CEE in GVC: gross export of goods, monthly year-over-year pandemick shock&Russian aggression agains Ukraine

during the pandemic, all EU countries initially experienced a slump in exports, but the recovery in CEE and V4 trade was faster than in the EU27

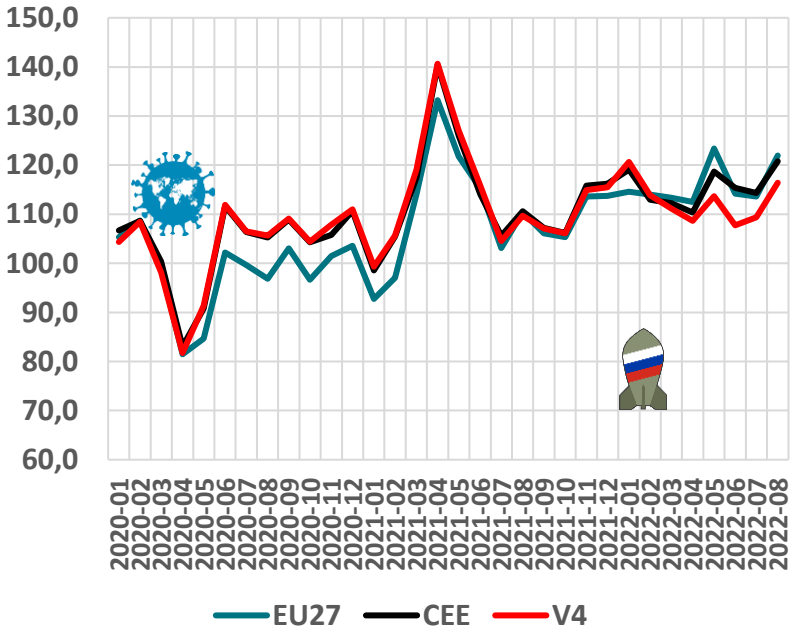
the war in Ukraine did not cause a collapse in trade in goods and the year 2022 was characterized by increases in exports



CEE in GVC: gross export of consumer goods, monthly year-over-year pandemick shock&Russian aggression agains Ukraine

exports of consumer goods were more resilient to shocks during the pandemic, but the recovery in CCE and V4 was more pronounced than in the EU27

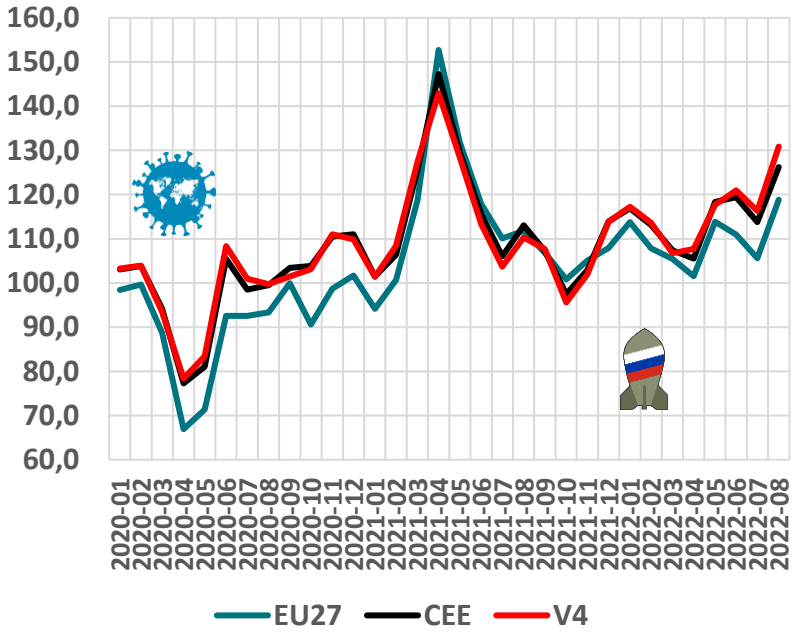
the war in Ukraine did not cause a collapse in trade in consumer goods, but the results of the V4 were worse compared to other economies



CEE in GVC: gross export of capital goods, monthly year-over-year pandemick shock&Russian aggression agains Ukraine

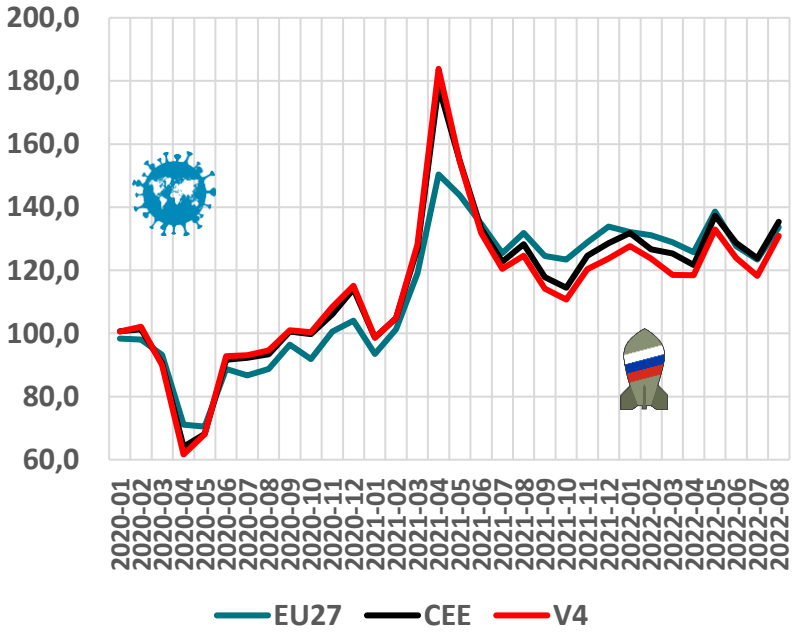
exports of capital goods were less resilient to shocks than consumer goods, but the recovery in the CCE and V4 was more visible than in the EU27

the war in Ukraine did not cause a collapse in capital trade, and the results of the CEE and V4 were clearly better than the EU27

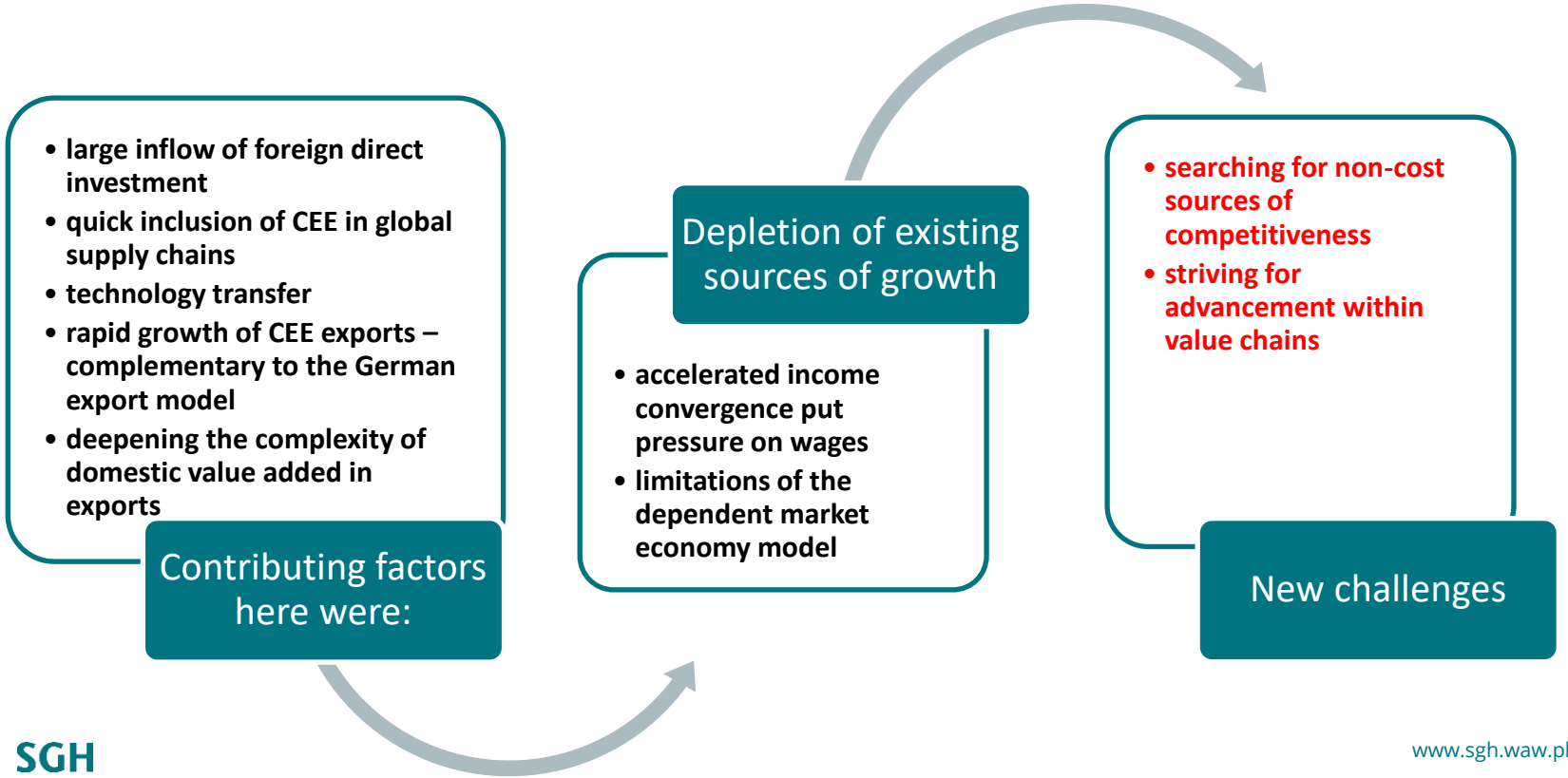


CEE in GVC: gross export of intermediiate goods, monthly year-over-year pandemick shock&Russian aggression agains Ukraine

- exports of intermediate goods were the most sensitive to the covid shock, but the recovery in CCE and V4 was stronger than in the EU27
- the war in Ukraine did not cause a breakdown in trade in intermediate goods, but the results of the V4 were clearly worse than those of CEE and EU27



CEE in GVC: If it's not so bad, why isn't it good?



Qualitative research based on IDI

Aim to assess prospects for moving up value chains, available solutions for creating new competence domains for CEE and V4 enterprises.

Method: Individual in-depth structured interviews with representatives of industries key for the participation in GVC, including enterprises and organizations supporting the development of innovative industrial ecosystems, business environment institutions and business organizations

Time: 2021 - after pandemic before Russian aggression

Moving up value chains: perception of enterprises and business organizations

Two dominating views on success factor in GVC

1st view based on a cross-cutting approach to industry success factors in supply chains

- There is no there is **no one-size-fits-all approach**
- In some industries, the key success factors are **R&D** and access to a portfolio of **patents and technologies**
- In other industries, **control over logistics** is most important
- For vehicle manufacturers, an increasing challenge is to implement **software solutions coupled with technology** - not only at the level of the final product, but also **throughout the entire value chain**
- For some respondents technological issues remained less important than a **flexible, even agile**, **way of operating and the ability to easily adapt to changes**

Moving up value chains: perception of enterprises and business organizations

Two dominating views on success factor in GVC

2nd indicating concrete industries that will go up, down or remain at the same level

- **advancing**:
  - food processing, household appliances, metallurgy and foundry, automotive (modern), medicine, logistics, furniture, industrial automation, IT
- **remaining at the same level**:
  - automotive (traditional), chemicals, medicine, aircraft, household appliances
- **decreasing**:
  - tourism, culture , aircraft

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains

Regionalization and the return of industry to Europe and regionalization of supply chains is beneficial for CEE, but CEE still lacks capital and advanced technologies

- Strengthening CEE's position in GVC is **conditional**. In order not to remain a supplier mainly of the second tier, it is necessary to implement **large projects co-financed by the state aid** (national of EU funds) especially in the case of new technologies (automation and robotization)
- Disturbances in supply chains caused by **shocks were considered a positive factor**, as they create the possibility for repositioning. However, this is a **short-lived factor** as the chains will restructure and then it will be difficult to move up value chains.

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains

Pessimistic view

- Automation of processes, digitization and autonomous plants could completely change the position of CEE economies in GVC, but **gaining control over value chains by companies from CEE countries is very difficult**
- This is due to the **lack of innovations and breakthrough technologies** as well as the **low financial potential** of enterprises from this part of Europe.

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains:

Key factor - summary

- **Cost competition remains an option** for CEE, but the importance of this factor is decreasing.
- CEE **benefit from regionalization** of GVC.

- The key factor is **innovation** and ability to **develop new competence domains** including use advanced technologies, mainly IT, including the use of artificial intelligence, VR, as well as in the field of organization management (lean management, TQM, service management or project management skills etc.).

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains - developing new competence domains

- It is crucial to **create unique sectoral skills** in the CEE countries.

- Regional specializations and building new competence domains around them are an **important elements of comprehensive public policies**, linking enterprises, business organizations, business environment institutions and universities. The aim of such a strategy should be to maximize added value and achieve synergies.

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains - developing new competence domains

Key challenges

- **too few companies creating and controlling** the value chain
- capital and organizational **dispersion of the CEE businesses** - none of the potential groups of innovative enterprises is able to break through to higher levels of production and technology and establish a position on the international arena
- a **small number of breakthrough innovations** in the CEE countries
- the **risk of an outflow of talents** to more developed EU countries
- **lack of experience of public institutions** from the CEE region in supporting future sectors and new competence domains (compared to e.g. South Korea)

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains - developing new competence domains

Some opportunities

- **own know-how**, developed in cooperation between business and universities (stimulated by public institutions), and some seed domains of competence, which may gradually be filled with new technologies and competent employees
- **stringent environmental regulations** in the EU, aimed at promoting energy efficiency and low emissions, contributing directly and indirectly to the development of such industries related to automation and robotics as well as photonics
- **high engineering and programming competences** in the CEE (e.g. in the field of designing and robotics, where competences of the future are required).

Moving up value chains: perception of enterprises and business organizations

Perspectives of CEE moving up value chains - developing new competence domains

- Areas in which CEE countries can create their domains of competence are primarily **robotics and innovative agriculture, but also automation, electronics, photonics and food processing, as well as the medical industry, machines, satellite technologies**, etc.
- The key sectoral competences that will enable the construction of competence domains are engineering and programming skills.

	Competence domains	Industrial competences
Most common	• robotics • innovative agriculture	• engineering • programming
Less often	• IT • automation • electronics • photonics • food processing	• digital solutions • smart technologies
Rarely	• medical industry • construction industry • furniture technologies • autonomous vehicles • satellite technologies • agricultural machinery	

Moving up value chains: perception of enterprises and business organizations

CEE moving up value chains strategies

1st – firm strategies focused on specialised products and accompanying services

- Firm strategies should be focused on **specialized products (product lines) and accompanying services** tailored to them, creating additional value for business partners or end customers
  - building a competitive advantage only with the use of a product is unstable
  - additional services, creating a lasting bond with business partners in the future (product management, R&D, product modifications together with customers);

Moving up value chains: perception of enterprises and business organizations

CEE moving up value chains strategies

2nd – more consolidations and diversification in related industries

- **Consolidation of enterprises/industries from the CEE countries** and a strategy aimed at achieving a critical scale of operation are necessary
- Otherwise, any attempt to improve the position of companies in this region will face risk
  - **technological** - in the context of R&D
  - **investment** - in terms of increasing production capacity
  - **low margin and failure to achieve the appropriate market power** on time
- **Mergers and acquisitions should also be accompanied by the acceleration of diversification of activities in related industries** (including the creation of new supply chains as part of multi-industry cooperation)

Moving up value chains: perception of enterprises and business organizations

CEE moving up value chains strategies

3nd – more investments in modern technoloigies

- **Investments in modern technologies** are currently necessary for CEE countries to compete on a global scale (automation, robotization, IT)
- **Competition based on labor costs** among European countries **is losing importance**
- Without **large investments in technology**, the position of the CEE countries will deteriorate

Moving up value chains: perception of enterprises and business organizations

CEE moving up value chains strategies

4th – witching from imitation to innovation

- Switching from imitation to innovation, using prediction and scouting strategies,
  - **Product and geographical diversification** and knowledge exchange between enterprises;
  - **Expanding the intellectual base** and focusing on domestic engineers and specialists and retaining them in the organization or sector;
  - **Improvement of soft skills** in enterprises from CEE countries (negotiation skills, language skills, knowledge of company internationalization tools, etc.).

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Thank you!

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