



## COUNTRY BRIEFING SLOVAKIA

Vienna Institute for International Economic Studies

# Industrial Policy for a New Growth Model

Country Briefing Slovakia

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This publication is edited by the FES programme on Economic Development in Central Eastern and South Eastern Europe »European Economies of the East«. The program is headed by Ernst Hillebrand.

Please find all the publications of the programme under its webpage:

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# CENTRAL AND EASTERN EUROPE NEEDS INDUSTRIAL POLICY TO ESCAPE THE MIDDLE INCOME TRAP

Since the early 2000s, the EU member states of Central and Eastern Europe (EU-CEE) have achieved an impressive economic catch-up process. However, the previously successful model of taking over labour-intensive production steps as an 'extended workbench' of Western corporations has reached its limits. Combined with major global challenges such as decarbonisation and digitalisation, this makes it essential for EU-CEE to develop a new, innovation-based economic model. Only then will these states be able to complete the catch up with Western Europe in terms of productivity and living standards. The situation is exacerbated by the economic consequences of the war in Ukraine, such as permanently higher energy prices and higher inflation, which pose grave challenges for the region's external competitiveness.

The problem is that the central technological competences and those parts of production with the highest added value are located in the 'headquarter economies' of Western Europe. Meanwhile, the EU-CEE countries – Poland, Czechia, Slovakia, Hungary, Slovenia, Croatia, Romania, Bulgaria and the three Baltic states – are still extremely specialised in labour-intensive production. They depend heavily on lower labour costs, and this restricts their prospects of catching up economically with Western Europe. A good example of this is the car industry, which is so important for the region as indicated by its high share of value added, jobs and exports, especially in the Visegrád states, Romania and Slovenia.

The study shows that the EU-CEE countries have so far lacked a constructive approach to industrial policy in their development trajectories. They have had a very broad ranging FDI promotion policy, weak investment environments for start-ups, and the activities of state-owned enterprises have not been aligned with the greater development goals. In general, there is a lack of state entrepreneurship in these countries that could nurture promising industries. This is particularly challenging for regions that are lagging behind within countries, as they lack the technical capacities for industrial policy. Due to these factors, the study argues that the EU-CEE countries are struggling to get out of their middle income trap.

Their EU membership offers unique opportunities for industrial policy, but also challenges. On the plus side are access to funds, participation in research networks and the opportunity to shape industrial policy on the EU level. Important-

ly, industrial policy in the EU has taken a much more prominent role in recent years as shown by initiatives such as the European Chips Act or the Important Projects of Common European Interest (IPCEI). This provides some momentum for the development of industrial policy in the EU-CEE countries. Strict state aid rules and an EU competition policy that gives preference to free market principles, on the other hand, are challenges for an effective industrial policy.

As discussed above, the growth model of the EU-CEE countries must be made fit for the future. Decarbonisation, digitalisation and a shrinking labour force require massive efforts to be made. For countries like Poland, the green transition is a major challenge. This transition can only be managed through huge public investments in green technologies and digitalisation, combined with the right conditions for private enterprise to thrive, to create a fully joined-up approach combining the best of the public and private sectors and academia. This means more money for education, research and development, as well as active labour market policies to manage the transition.

Above all, however, the countries of the region need a strategically oriented industrial policy to support the emergence of more globally competitive companies and to emphasise their own economic strengths. While a true "entrepreneurial state" may be too ambitious for many EU-CEE countries in the coming years, steps in this direction are the way to go. We propose eight steps, that should be taken:

1. Create a national innovation system in each country, bringing together the private sector, universities, key ministries, and business agencies. Within this biotope, new ideas can be developed, tested, and financed. Each country should define which sectors and specialisations are promoted, rather than relying solely on external market forces.
2. Make full use of EU funds and maximise participation in EU research initiatives to advance industrial policy goals. Governments should also get more involved in industrial policy debates at the EU level. Greater participation in the EU's Horizon Europe research funding programme or in the EU's Important Project of Common European Interest (IPCEI) initiative would also be particularly important for the region's technologically less advanced countries.

3. Learn from each other's successes stories to emerge as frontrunners in the digital economy. Estonia is generally well prepared in this area and often raised as an example. However, there are also other positive cases in the region. Romania and Croatia have a particularly high proportion of graduates in ICT, relevant for digitalisation. Czechia shines with its digital start-ups, the Baltic states with the quality of their digital public services. The Visegrád countries and Slovenia have highly digitalised and automated industries.
4. Harmonise investment schemes to attract foreign companies with national industrial policy. Instead of providing blanket support for all investments by foreign companies, national governments should strategically consider which sectors and parts of the value chain they want to attract, and create incentives that maximise the potential for spillovers from foreign giants to domestic firms.
5. Identify and exploit promising niches. Given the lack of technological experience, the establishment of the semiconductor industry in the EU-CEE countries, for example, would not be very promising. However, each country has traditional strengths that should be built upon.
6. Institutional reforms. In some states of the region, the quality of public institutions has declined significantly in recent years. This is worrying. Countries in East Asia have a lot of experience in building adequate institutions for an active industrial policy, even if the framework conditions there partly do not meet Northwest European standards. This experience should be used.
7. Structural change must be cushioned socially in order not to lose the support of the population. EU-CEE countries should aim for a flexible labour market to ease the transition from old to new jobs, but underpin this with extensive retraining programmes and a social safety net that means that workers themselves do not bear the costs of the transition.
8. Each country needs a tailor-made industrial strategy adapted to its specific needs. While the Baltics, for example, are well positioned for the digital transformation, they are struggling above all with distribution problems and a shrinking population. Czechia, Poland or Slovenia are industrially the most advanced, but must make the transition from 'extended workbench' to innovative economy. For the less developed parts of EU-CEE such as Bulgaria and Romania, the priority should be on maximising the transfer and knowledge and innovation from big foreign investors.

# COUNTRY BRIEFING SLOVAKIA

## COUNTRY OVERVIEW

Slovakia is one of the most industrialized countries within the EU, with a manufacturing value added share of 18 per cent of GDP. It's share of medium and high-tech sectors is also high above the EU-average, driven by foreign-owned production plants. However, Slovakia ranks below the EU-average in terms of the competitive industrial performance index, hinting at quality shortcomings and echoing the country's position in production networks as primarily an assembly hub.

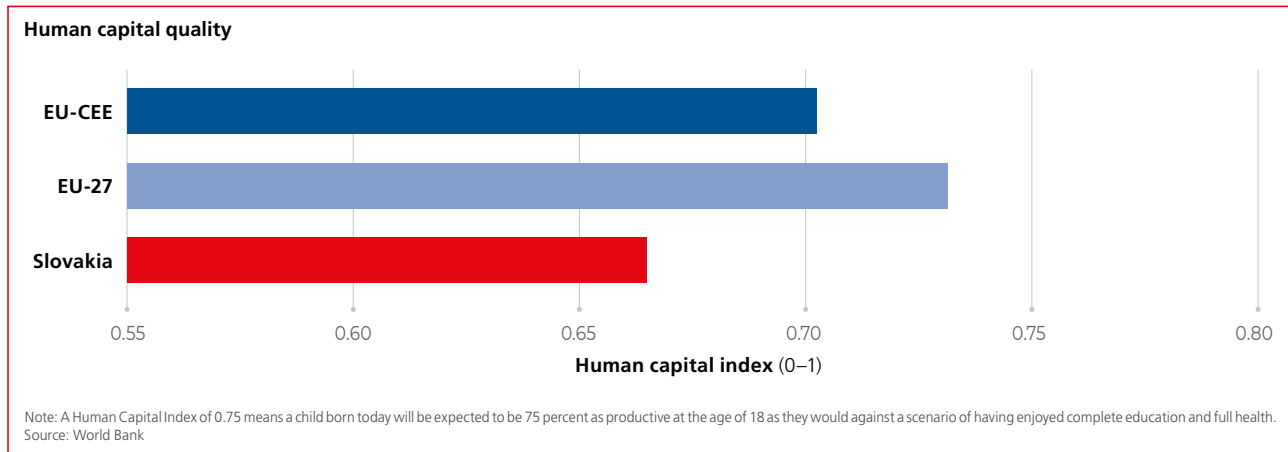
Similar to Czechia and Hungary, Slovakia has a highly undiversified industrial base, with the automotive and metal production sectors forming the core of economic activity in Slovakia: each accounting for 16 per cent of manufacturing employment. Volkswagen Slovakia is the largest employer in the country, with a staff of 11,500 persons<sup>1</sup> in 2021 and together with other original equipment manufacturers (KIA Motors, Stellantis, Jaguar Land Rover) and car part suppliers (Mobis, Faurecia, SAS Automotive) it forms the core of automotive employment. US Steel Košice is the second largest company with a staff of 8,500 persons. Inward FDI is also advancing the green transition, and Slovakia recently attracted numerous foreign investments related to electric vehicle production. Nonetheless, large productivity gaps remain be-

tween MNEs and domestic firms, pointing to the fact that spillover generation represents a major challenge for Slovakia. Still, building on its comparative advantage in the automotive sector, there are some domestic efforts to upgrade into related green technologies: three Slovak companies participate in the IPCEI European Battery Innovation, and one in the IPCEI hydrogen value chain (IPCEI HY2Use). A project by the RONA company aims to apply hydrogen in industry. The Slovak battery firm InoBat Auto is setting up an EV battery R&D centre with a pilot production line in Voderady The Slovak Battery Alliance was modelled after the European Battery Alliance and formed in October 2018. It aims to foster closer cooperation between universities, industrial and public sectors. In June 2021, the government adopted the National Hydrogen Strategy, also modelled after the European Hydrogen Strategy. The action plan included investment opportunities and will include all stages, from transport, distribution and storage to use in industrial and transport technologies (e.g. hydrogen bus and sports car presented at Expo 2020 in Dubai). Another promising sector in Slovakia is the IT sector, with clusters in Bratislava, Košice and Žilina. There are numerous innovative companies that emerged from Slovakia, including the domestic success story Eset, a global IT security provider, or Sensoneo, a smart waste-management firm. However, many promising start-ups end up being transferred to foreign ownership at a relatively early stage, including Slido (acquired by Cisco), or Minit, a leader in data mining (acquired by Microsoft), pointing to issues in the availability of financing to expand and maintain high-growth firms.

<sup>1</sup> Coface (2022), CEE-Top 500 Ranking.

Industrial development – I			
	Competitive industrial performance index	Manufacturing value added (MVA) (% of GDP)	Medium- and high-tech MVA (% of total MVA)
<b>Slovakia</b>	0.12	18	53
<b>EU-27</b>	0.14	15	41
<b>EU-CEE</b>	0.10	17	38

Note: 2020 values. The CIP index assesses the strength and complexity of an economy's industry, with Germany claiming the maximum score in 2020 at 0.42.  
Source: UNIDO



## INDUSTRIAL COMPETITIVENESS – SWOT

### Strengths

- Deep integration in global value chains and a well-developed industrial base represents the main strength of the country, which continues to attract foreign investors into the country. Soon, there will be five automakers with an extensive network of suppliers, making Slovakia the largest per-capita passenger car producer in the world.
- Emerging IT clusters in parts of the country, augmented by FDI in business services, are opening up a promising diversification route for the economy, and attracting highly-educated workers from home and abroad.

### Weaknesses

- Slovakia lags behind its Visegrád peers in the area of innovation. This is repeatedly visible from various EU-wide rankings and comparisons: it has one of the lowest BERD per GDP in general, and scores badly in the ECO-Innovation Scoreboard in particular. The lagging human capital quality further limits innovation potential. Slovakia also ranks on the lower end of the DESI-Indicator in (23<sup>rd</sup> out of 27 countries). In terms of the share of SMEs reaching at least basic levels of digital intensity, the country scores especially badly, hinting at a large digital divide between large enterprises and SMEs.
- There are wide regional disparities within the country, which require a targeted and distinct industrial strategy. However, the lagging regions often lack the technical and institutional capacities to effectively identify and formulate suitable Smart Specialisation Strategies, and struggle to absorb available EU financing.

### Opportunities

- About 43 per cent of the Recovery and Resilience Fund (RRF) are allocated to green transition in Slovakia, which is much higher than in other EU-CEEs and might pose an opportunity for faster transition. The so-far smooth progress with the RRF milestones and disbursements contributes positively to the opportunities tied to this source of financing.
- While R&D is typically located at headquarters of large automakers, some car part suppliers have established R&D centers in Slovakia. For example, in August 2021,

the German Hella company, producing automotive lighting, opened a new development center in Slovakia. It cited putting production and research under one roof as an advantage for minimizing time for transportation and miscommunication. Such functional upgrading ought to be incentivized more widely to move from production to more sophisticated activities of the value chain.

### Threats

- The large and undiversified industrial sector poses a large challenge in the green transition, given the high greenhouse gas intensity and high energy intensity of the economy. Combined with the very high dependence on Russian energy imports, the availability of cost-competitive and clean energy can become a limiting factor in the country's industrial competitiveness going forward.
- Battery production is an important step of transition towards electric vehicle production. However, no battery gigafactory is currently located in the country, thus Slovakia lags behind Hungary and Poland in this respect.
- There is a large brain drain to the more developed neighbouring countries, especially to Austria and Czechia. This is exacerbated by the lagging quality of higher educational institutions, leading to outward migration of talent at a young age. This reality not only exacerbates existing labour shortages, but also limits the possibility to upgrade into an innovation-based economic model.

## INDUSTRIAL POLICIES AND STRUCTURAL REFORM DEVELOPMENTS

### FDI promotion and value chain upgrading

- Investment aid is primarily aimed at reducing regional disparities (aid intensities depend on the GDP per capita of the respective region), though in reality, attracting FDI into the least developed regions presents a major challenge. A tax allowance is the preferred form of investment aid. Supported areas include industrial production, technology centres, shared service centres, combined project of industrial production and technology centre.

- There are also some efforts to target higher-value added activities, including the Research and Development Superdeduction, whereby companies located in Slovakia can deduct additional 100% of their R&D costs from their corporate income tax base; or the Patent box, a special tax regime for intellectual property rights-related income. The effectiveness of incentivising such investments is not clear as it tends to lack evaluation, and production-oriented projects continue to dominate greenfield FDI.

### **New technologies, digitalisation, innovation**

- About 21 per cent of the Recovery and Resilience Fund (RRF) are allocated to the digital transition, including direct support to firms and the adoption of a ‘voucher’ system to boost innovation. An investment of around 102 million euros plans to help address the digital divide by aiding firms digitalise their business processes and providing trainings through a network of digital innovation hubs. In addition, investments intend to support domestic development of a supercomputer, as well as encourage participation in other cross-border EU projects, whereby Slovakia is presently underrepresented.
- A new ‘Action Plan for the Digital Transformation of Slovakia for the years 2023–2026’ was approved at the end of 2022. The action plan (which is a part of the RRF milestones) presents measures to improve Slovakia’s digital performance, building on the 2030 digital transformation strategy for Slovakia, as well as on the current 2019–2022 action plan. These overlapping documents intend to support the integration of innovative technologies in enterprises, including cloud and edge computing, HPC, blockchain and AI.
- The Implementation Plan of the Research and Innovation Strategy for Smart Specialization of the Slovak Republic adopted in 2017 focuses on five smart specialization areas: vehicles for the 21<sup>st</sup> century, industry for the 21<sup>st</sup> century, digital Slovakia and creative industry, population health and medical technology, and healthy food and environment.

### **Green transformation of industry**

- About 43 per cent of the Recovery and Resilience Fund (RRF) are allocated to green transition, which represents a high share by EU standards. Investment of around 368 million euros go into the decarbonisation of industry and will spur energy efficiency improvements and deployment of innovative technologies. Part of financing into sustainable transport will support the roll-out of around 3,000 charging stations for alternative fuels.
- Following the European Battery Alliance, the Slovak Battery Alliance was created in October 2019, with the aim to be more active in European battery value chains. The alliance is a platform for deepening cooperation across different stakeholders, which has been traditionally absent in Slovakia.
- In October 2019, the Circular Slovakia platform supporting responsible entrepreneurship based on the principles of a circular economy was launched. Like-

wise, Envirostretégia 2030, Strategy of the Environmental Policy of the Slovak Republic 2030 approved in 2019 has the underlying vision is to achieve a sustainable and circular economy, paired with rigorous environmental protection, minimal use of non-renewable resources and hazardous substances.

## **COUNTRY-SPECIFIC RECOMMENDATIONS**

In the main part of the study, we identify Slovakia as one of the most industrialised countries of the region, but as one falling somewhat behind the most developed EU-CEE peers in its innovation potential. Therefore, we suggested that the core focus ought to be on leveraging the wide presence of MNEs to create deeper linkages with the domestic economy, as well as on diversifying the sectoral and functional structure. Specifically, we propose the following policy priorities:

- **Cultivate a ‘network state’ by improving the efficiency of governmental institutions and facilitating the collaboration between public institutions and the academia and private sector.** Better coordination across different ministerial units will ensure the alignment of individual industrial policies with overall socio-economic objectives, and remove the inefficiency arising from often overlapping strategic priorities and documents (see policy recommendation 5.1 in the main report). Likewise, better developed networks and collaboration channels with major stakeholders will allow policies to be closely aligned to the specific needs of the market and increase the potential for domestic firms to receive the support they need.
- **Given major regional disparities across the country, recognizing and addressing the starkly different industrial policy needs across regions is crucial.** While the most developed parts of the country may be facing the challenge of making the transition from imitation to innovation, lagging regions are first and foremost in need of upgrading their basic infrastructure, improving human capital quality and attracting FDI to link up to GVCs. The setup of regional investment promotion agencies, as seen in Czechia (see Box 4 of the main report) presents a useful example of a tailored subnational industrial policy. Overall, a national industrial strategy needs to be sensitive to these differences and ensure responsiveness to the distributional implications of adopted policies (see policy recommendation 5.7 of the main report).
- **Improve the provision of public services, especially in the area of education to close the quality gap in human capital, mitigate brain drain, and acquire talent from abroad.** As emphasised in policy recommendation 5.3 of the main report, learning from regional leaders is crucial. In this sense, identifying the major gaps between Slovakia and the most developed countries of the EU-CEE provides a road

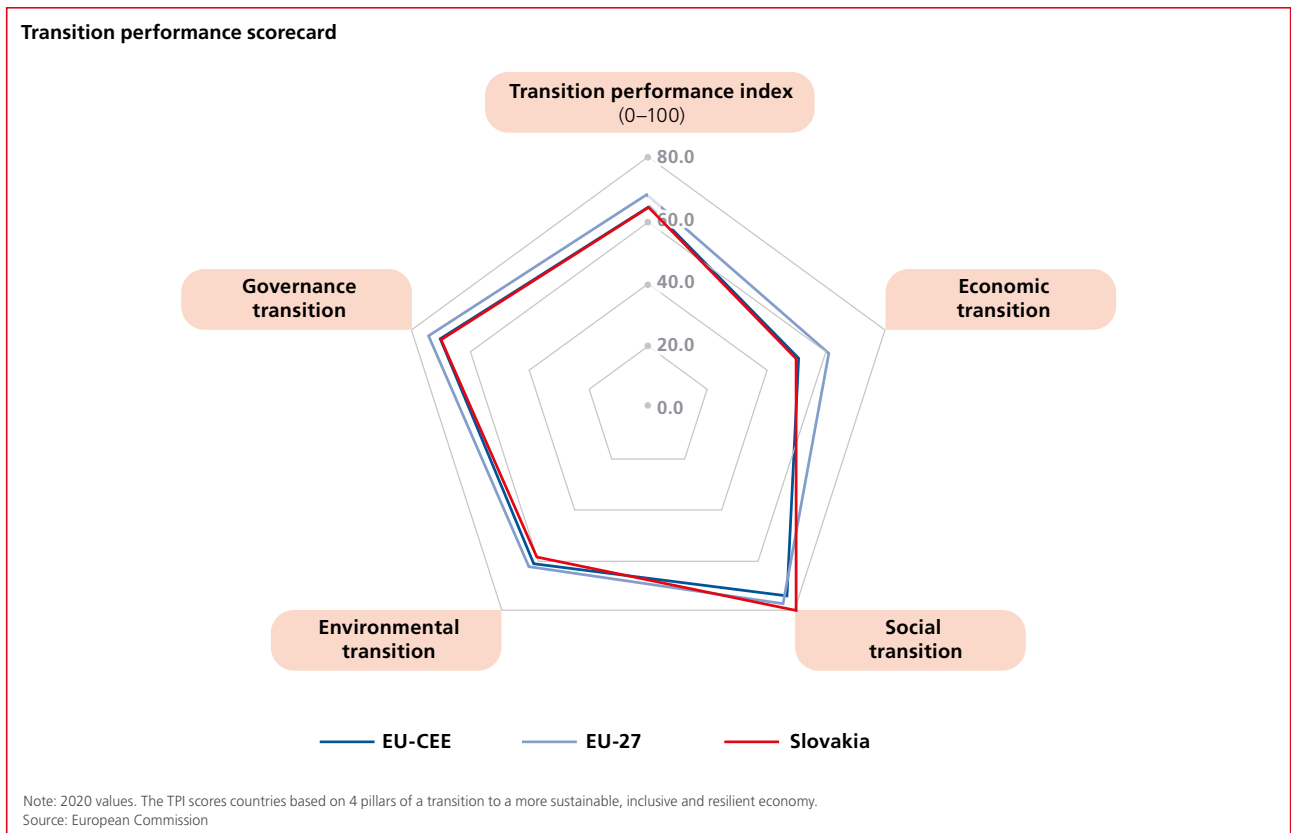
map of the priority areas that the country needs to improve upon. With students and workers often moving for better education and working conditions to neighbouring Czechia (and other parts of Europe), poor quality of public services is a major ‘push’ factor for many who choose to emigrate. The shortcomings in

the human capital dimension are also reflected in the low position of Slovakia in various rankings. The RRF funds will provide a valuable opportunity to tackle this challenge, as they also focus on the availability, modernisation and quality of inclusive education, and the improvement of universities’ performance.

**Industrial development – II**

Sector	Percent of manufacturing employment
Motor vehicles, trailers and semi-trailers	15.7
Fabricated metal products, excl. machinery and equipment	15.7
Machinery and equipment	9.0
Food products	7.4
Rubber and plastic products	7.1
Electrical equipment	7.0

Note: 2018 values of Persons employed.  
Source: Eurostat Structural Business Statistics.





# Slovakia



## COUNTRY OVERVIEW

Slovakia is one of the most industrialized countries within the EU. It's share of medium and high-tech sectors is above the EU-average, driven by foreign-owned production plants. The automotive and metal production sectors forming the core of economic activity in Slovakia. Large productivity gaps remain between MNEs and domestic firms.

Promising IT-sector but issues in the availability of financing for potential high-growth firms.

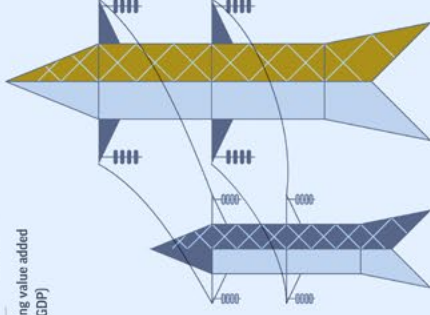
## INDUSTRIAL DEVELOPMENT

SLOVAKIA	0.12	18%
EU-27	0.14	15%
EU-CEE	0.10	17%

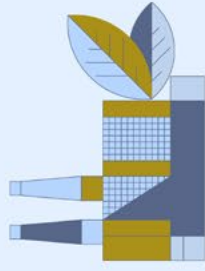
Competitive industrial performance index

Manufacturing value added (MVA) (% of GDP)

The 2023 data through end of country of Germany's Federal Statistical Office. Source: OECD



## INDUSTRIAL COMPETITIVENESS - SWOT



### STRENGTHS

- Deep integration in value chains and a well-developed industrial base.
- Emerging IT clusters in parts of the country.



### WEAKNESSES

- Comparatively weak innovation capacities and lagging human capital.
- Large digital divide between large enterprises and SMEs.
- Wide regional disparities within the country, weak institutional capacities in peripheral regions.



### OPPORTUNITIES

- High proportion of Recovery and Resilience Plan (RRP) resources allocated to green transition creates opportunity for faster transition.
- Some car part suppliers are testing RRP resources in Slovakia, creating opportunities for functional upgrading towards more sophisticated activities in the value chains.



### THREATS

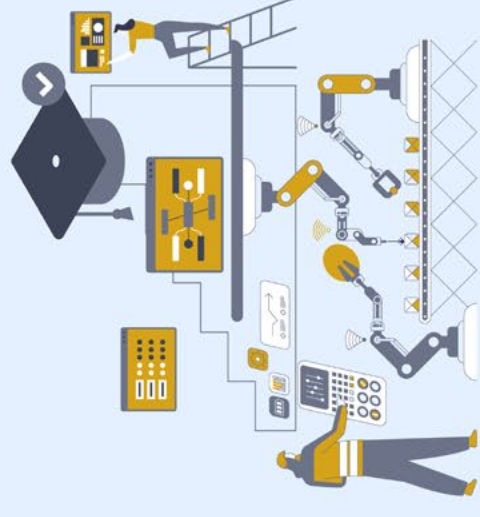
- Large and undiversified industrial sector with the high greenhouse gas intensity and high energy intensity poses a challenge in the green transition.
- Very high dependence on Russian energy imports.
- No battery Gigafactory, lagging behind Hungary and Poland in this respect.
- There is a large brain drain to the more developed neighbouring countries, especially to Austria and Czechia.

## WHAT SHOULD BE DONE?

### COUNTRY-SPECIFIC RECOMMENDATIONS

We suggested that the core focus ought to be on leveraging the wide presence of MNEs to create deeper linkages with the domestic economy, as well as on diversifying the sectoral and functional structure.

- Cultivate a 'network state' by improving the efficiency of governmental institutions and facilitating the collaboration between public institutions and the academia and private sector.
- Address regional disparities, recognizing the different industrial policy needs across regions. Lagging regions are first and foremost in need of upgrading their basic infrastructure, improving human capital quality and attracting FDI to link up to GVCs.
- Improve the provision of public services, especially in the area of education to close the quality gap in human capital, mitigate brain drain, and acquire talent from abroad.



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## Industrial Policy for a New Growth Model: A Toolbox for EU-CEE Countries

This country briefing is a short summary of a much broader study that deals with the perspectives of industrial policies in Central Eastern and Southern Eastern Europe and the question how these countries can avoid to get stuck in a middle-income trap. The study has been authored by a team of experts from the Vienna Institute for International Economic Studies on behalf of Friedrich-Ebert-Stiftung.

The study argues that the EU-CEE countries have so far lacked a systematic approach to industrial policy in their development trajectories. They have had a very broad ranging FDI promotion policy and weak investment environments for start-ups, while the activities of state-owned enterprises have not been aligned with the greater development goals.

Hence, the growth model of the EU-CEE countries must be made fit for the future. Decarbonisation, digitalisation and a shrinking labour force require massive efforts to be made. This transition can only be managed through public investments in green technologies and digitalisation, education and infrastructure, combined with the right conditions for private enterprise to thrive.

The study includes eleven country profiles that analyse the economic and industrial structures for their strengths and weaknesses and identify possible courses of action for an active industrial policy.

The full study can be found here:

<http://library.fes.de/pdf-files/bueros/budapest/20260.pdf>



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