

# State aid policy in the Visegrad Group countries after their accession to the European Union<sup>1</sup>

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## Abstract

Although the competition policy is the exclusive competence of the European Union, and state aid law is applied uniformly across the EU, it is up to the Member States to ultimately decide how to use and profile state aid. This article's aim is to assess to what extent the state aid policies converged across the Visegrad Group countries after their accession to the EU. Hence, a statistical comparative analysis was conducted on changes in the value, intensity and purpose of state aid in the V4 countries. The study demonstrated that, in particular, the early years of the first and second full multiannual financial perspectives influenced the intensity and structure of state aid in the V4 countries. Although the main categories of aid are in line with those found in other Member States, support in the V4 countries is still structured differently to the EU average.

**Keywords:** state aid, Visegrad Group (V4), European Union (EU), interventionism, regional aid

## Polityka pomocy państwa w krajach Grupy Wyszehradzkiej po przystąpieniu do Unii Europejskiej

### Streszczenie

Mimo że polityka konkurencji leży w wyłącznych kompetencjach Unii Europejskiej, a prawo pomocy publicznej obowiązuje w identyczny sposób w całej UE, to od państw członkowskich zależy sposób wykorzystania i sprofilowania ostatecznej pomocy publicznej. Celem niniejszego artykułu jest ocena stopnia zbliżenia polityk pomocy publicznej w państwach Grupy Wyszehradzkiej po akcesji

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do UE. W związku z tym poddano statystycznej analizie porównawczej zmiany w wartości, intensywności oraz przeznaczeniach udzielanej pomocy publicznej w państwach V4. Przeprowadzone badanie pozwoliło wskazać, że szczególnie początkowe lata pierwszej i drugiej pełnej wieloletniej perspektywy finansowej miały wpływ na natężenie i strukturę pomocy publicznej w państwach V4. Mimo że główne kategorie pomocy są zbieżne z występującymi w innych państwach członkowskich UE, to wciąż struktura wsparcia w państwach V4 odbiega od średniej unijnej.

**Słowa kluczowe:** pomoc państwa, Grupa Wyszehradzka (V4), Unia Europejska (UE), interwencjonizm, pomoc regionalna

One of the implications of European Union membership is adopting and adhering to the entire *acquis communautaire*. Most of the time, this requires legislative work transposing the substantive and procedural law inherent in the directives into the national legal system, and then implementing them in the form of national legislation. In the case of directly applicable regulations, states usually must implement procedural and institutional changes in national legislation. One particular area of EU legislation where Member States have to accept existing regulations in the EU passively is competition law, including state aid law. This is because, pursuant to Article 3 of the Treaty on the Functioning of the European Union (TFEU), the Union has exclusive competence in this area, also because under Article 107(1) TFEU, there is a general prohibition on state aid, with a number of possible exemptions. These exemptions have been catalogued and described in detail by the European Commission in the form of guidelines on the criteria for assessing individual categories of state aid. On the other hand, when preparing their national aid programmes, Member States must rely on these guidelines and criteria. A separate issue is the direct applicability of regulations in this area, including those exempting specific categories of aid from notification to the Commission (see: Commission Regulation (EC) 800/2008; Commission Regulation (EU) 651/2014; Heimler, Jenny 2012).

Although the above-mentioned requirements are applied uniformly across the EU, it is up to the governments of the Member States to decide how to ultimately use and profile state aid. In order to determine the degree of similarity between interventions in national markets in the form of state aid and its possible effects, four countries were selected. They all shared a similar economic and political history before joining the EU in 2004, and are located in the same region of Central and Eastern Europe, forming in the political space the so-called Visegrad Group (V4 Group). As they became EU Members States at the same time, they adopted without derogation the aforementioned rules of state aid.

This article's aim is to assess to what extent the state aid policies converged across the Visegrad Group countries after their accession to the EU. Hence, a statistical comparative analysis was conducted for examining changes in the value, intensity and purpose of state aid in the V4 countries.

Following a literature review that covered the existing studies on state aid in the Visegrad Group, the overall nominal value of state aid provided in these countries,

and the evolution of the Revealed State Aid Intensity Index (which measures the involvement of the Member States in market interventions against the EU as a whole) were calculated (Ambroziak 2021). Next, an analysis was conducted of the convergence of the structure of state aid provided in the V4 countries. The State Aid Similarity Index in place was employed to do this (Ambroziak 2021). This analysis was followed by a detailed examination of the main categories of state aid provided in the countries under review in 2004–2022.

## **1. Literature review**

Until the early 1990s, the economies of the Visegrad countries were centrally planned and controlled. The political transition (alongside the economic transition) came with a free market that revealed the frailties of state-owned establishments in these countries (Balcerowicz 1995). It was at that time that, instead of the production subsidies that were typically the norm in socialist economies, a need arose for both social transfers and support for the rescue and restructuring of enterprises. This change was particularly evident immediately before and after EU accession (Török 2007). Fourteen years after the beginning of the transition, V4 countries became the EU Member States. They adopted all legal solutions, including restrictive rules regarding subsidies for their own economies.

Given the historical background, it was expected that Hungary, Poland, the Czech Republic, and Slovakia would have a similar approach to state aid policy both before and after EU accession. This expectation was confirmed by the establishment of similar institutions to meet EU state aid monitoring requirements even prior to EU accession (Fornalczyk 2002), as well as their comparable inclusion in regional aid maps to support the attractiveness of lagging regions (Ambroziak 2015). Consequently, it can be argued that EU membership has shifted the domestic political balance in favour of FDI-based development strategies. Despite supporting a neoliberal approach, a membership in the EU has also increased the capacity of Eastern European countries to benefit from state aid compatible with EU principles (Potvorszki 2018; Vukov 2020).

After many years into EU membership, four Visegrad countries are considered to have developed somewhat different approaches to general internal market rules, including those concerning state aid (Lindstrom 2021). There are numerous sectoral publications focusing on the assessment of aid provided in individual countries in the region (Duman, Kureková 2012; Dorozinski, Kuna-Marszałek 2016; Nováčková et al. 2018; Kotíková, Blaschke 2019; Ambroziak 2021). However, there is still no comprehensive comparative assessment of both the intensity and direction of public intervention after 2004 in the countries of Central and Eastern Europe, including the Visegrad Group. There are, admittedly, excellent comparative studies, however, they are limited. Some studies are based on highly aggregated data (Volintiru et al. 2021), while others are focused on selected countries and address narrow questions, such as how state aid may preserve and reinforce existing growth models (Éltető, Medve-Bálint 2023). Some other studies

only address legal solutions related to specific aid categories, such as COVID-19 state aid (Urbanovics et al. 2021). These studies, however, do not address the economies of all V4 countries and the main categories of state aid. Hence, this study is the first attempt to fill this gap in scholarly literature.

## 2. Materials and methods

The statistical comparative analysis of state aid granted by the Visegrad countries compared to other EU Member States relies on available data from the European Commission for the period 2004–2022, sourced from the annually published reports *State Aid Scoreboard* (e.g. European Commission 2024). However, this data does not encompass all state aid granted within the Member States. The reporting excludes *de minimis* aid, as well as aid to railways, services of general economic interest, and schemes approved under the Temporary Union Framework. These areas are excluded due to limited reporting obligations imposed on Member States by corresponding legal frameworks.

Additionally, for the purposes of this study, aid to agriculture and transport, as well as aid provided in 2020–2021 under the Temporary Framework in response to COVID-19, and in 2022 in response to the situation in Ukraine, were excluded from the Scoreboard data analysis to ensure comparability. In the latter two cases, the objective was to examine the directions of state aid provided without the influence of support offered due to exceptional circumstances (Ambroziak 2023).

In the section of the analysis concerning the structure of state aid, Eurostat data on GDP per NUTS-2 region, trade in high-tech goods, and greenhouse gas emissions were additionally relied on to demonstrate potential directions of aid impact.

## 3. Changes in State Aid Intensities in the V4 countries

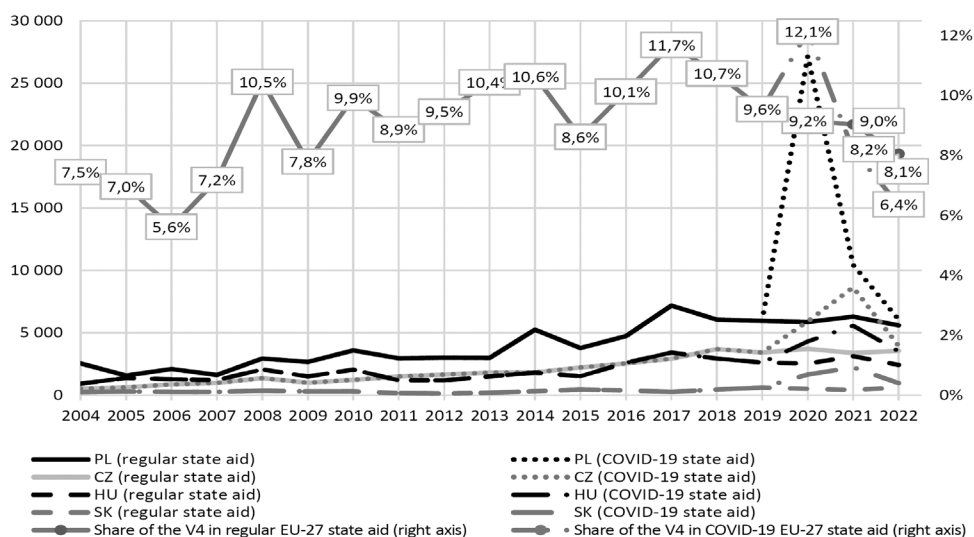
### 3.1. Changes in the value of state aid

The total value of state aid monitored by the European Commission granted in the EU (excluding aid related to COVID-19 and the situation in Ukraine) increased from EUR 57 billion to EUR 151.3 billion in nominal terms between 2004 and 2022 (see: *Figure 1*). The share of the value of state aid provided by the Visegrad countries changed significantly over the period under review, rising from 5.6% in 2006 (just after accession to the EU) to 10.7% in 2008, and 11.7% in 2017. This data demonstrates a definite increase in the early years of each full financial perspective. Among the V4 countries, Poland has always been the country providing the most public aid, with its share in the nominal value of total state aid in the EU ranging from 2.6% to 6.1%, followed by Hungary (from 1.6% to 3.2%), the Czech Republic (from 0.9% to 3%), and Slovakia (from 0.2% to 0.5%). Finally, the cumulative value of regular state aid granted during the period under review amounted to 14.4% of aid in the EU-27 for the entire Visegrad Group (Poland 7.4%, Hungary 3.8%, Czechia 2.8%, and Slovakia 0.4%).

From 2020 to 2022, due to the COVID-19 pandemic, EU Member States significantly increased their overall commitment to intervene in national markets. This was primar-

ily based on the *Temporary Framework for State aid measures* (European Commission 2020; see also: Ambroziak 2022a,b). Overall COVID-19 assistance amounted to EUR 183.8 billion in 2020, EUR 182.9 billion in 2021, and EUR 76.7 billion in 2022, which was approximately double the value of traditional state aid in the EU. The share of the V4 countries in the cumulative value of pandemic aid between 2020 and 2022 was approximately 9.6% of all emergency aid. This share was nearly 5 percentage points lower than in the case of cumulative regular state aid. This demonstrates a notably lower financial intervention in V4 countries compared to the EU-27 average. Among the V4 countries, Poland had the highest share in this category of support (5.8% of COVID-19 state aid), followed by the Czech Republic (1.8%), Hungary (1.2%), and Slovakia (0.7%). It is noteworthy that while the majority of EU countries, including those in the Visegrad Group, structured their COVID-19 aid to provide the largest share in 2021, Poland opted for a radical step of significant emergency assistance intervention, reaching 82.2% of the country's total COVID-19 aid in 2020, with correspondingly less in subsequent years.

**Figure 1: State aid in the V4 countries in 2004–2022 (EUR million)**



Source: the author's own calculation based on data from the European Commission (2024).

### 3.2. Revealed State Aid Intensity

To capture the relative intensity of state aid in individual Visegrad countries, the Revealed State Aid Intensity Index (Ambroziak 2021) was employed. It is structured around the relationship between the value of state aid in individual EU Member State and in the EU, as well as the GDP of the respective EU Member State and the entire EU.

To maintain symmetry, the Laursen (1998) approach was employed to construct the final formula:

$$RSAI_i = \left( \left( \frac{a_i}{x_i} \right) / \left( \frac{A_{EU}}{x_{EU}} \right) - 1 \right) / \left( \left( \frac{a_i}{x_i} \right) / \left( \frac{A_{EU}}{x_{EU}} \right) + 1 \right) \quad (1)$$

where:

$a_i$  - value of state aid in country  $i$

$x_i$  - GDP of country  $i$

$A_{EU}$  - value of state aid in the EU

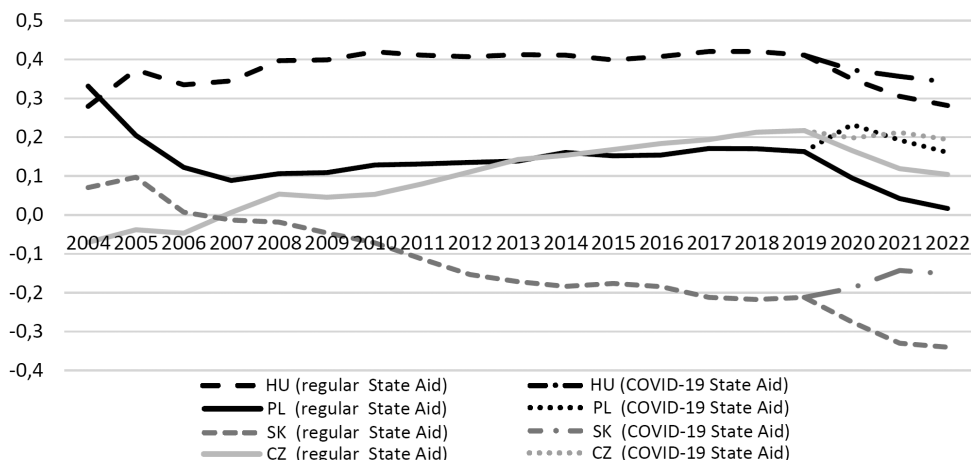
$x_{EU}$  - GDP of the EU.

When the ultimate value of the RSAI is higher than 0, it demonstrates that the relative intensity of state aid in a country is higher than the EU average. Conversely, when it takes on negative values, it suggests that the relative intensity is lower than the EU average. Due to the nature of this study, covering the entire period 2004–2022, we decided to cumulate the values of granted state aid and GDP in subsequent years, starting from 2004, and calculate RSAI on this basis each year. This makes it possible to form a comprehensive view of state aid policy over the period under review and consider both fluctuations in aid intensity resulting from factors such as economic crises and the spreading effects of aid over time.

An analysis of the Revealed State Aid Intensity Index (based on cumulative data) of individual Member States demonstrates that, over the pertinent period of 2004–2022, three countries in the V4 Group (Hungary, the Czech Republic, and Poland) were among the countries providing more support than the EU average. They recorded positive values of state aid intensity, with the Czech Republic crossing the positive threshold only in 2007. Following a period of significant fluctuations just after EU accession, the inflow of European funds clearly stabilised the intensity of aid offered in these countries until 2019. However, in case of the Czech Republic, the trend was distinctly upward. In contrast, Slovakia exhibited different results. It recorded a declining rate of state aid intensity from the time of accession to the EU in 2004, and a negative one from 2007, which implies lower financial involvement of the state in the economy compared to the EU average.

In all cases under review, intensity changed in 2020, when the COVID-19 pandemic broke out. The intensity of regular state aid began to decrease and was replaced by special crisis aid measures under the Temporary Framework (European Commission 2020). In the Czech Republic and Hungary, these measures only partially offset the decline in the intensity of regular state aid, whereas in Poland and Slovakia, they markedly elevated the intensity of all aid (both regular and COVID-19-related) above the trend observed in previous years (see: *Figure 2*).

**Figure 2: Evolution of the Revealed State Aid Intensity Index (RSAI) (cumulative) in the V4 countries**



Source: the author's calculation based on data from the European Commission (2024).

## 4. Convergence of state aid policy in the V4 countries

### 4.1. State aid determinants

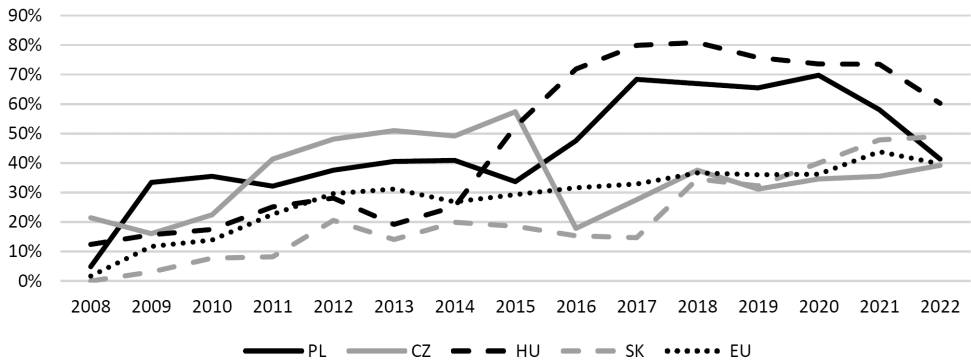
As previously mentioned, the European Commission has developed sets of criteria for the admissibility of regional, horizontal, and sectoral aid. However, this did not exempt Member States from having to notify aid measures under Article 108 TFEU and await the Commission's decision. Protracted procedures, especially following the major enlargement admitting Central and Eastern European countries in 2004, prompted the European Commission to widen the range of exemptions from the obligation to notify aid measures, subject to quite restrictive conditions. The adopted General Block Exemption Regulation (GBER) ensures that not all aid cases have to be notified to the European Commission (see: Commission Regulation (EC) 800/2008; Commission Regulation (EU) 651/2014).

It is noteworthy that the GBER includes categories of aid that closely align with the objectives of EU policies, such as energy transition. Therefore, it could be assumed that the higher the share of aid provided under the GBER, the more likely it is that the directions of the provided aid are in line with the objectives of EU policies. However, the categories of aid covered by the GBER include those with simple intervention objectives. The objectives include, for example, making the lagging regions more attractive for investment, with no other criteria than carrying out any kind of project or employing a certain number of workers.

Over the period 2004–2022, the share of state aid granted under the GBER varied significantly among the V4 group. Typically, however, it increased from a few per cent in 2004 to as much as 80.8% in Hungary in 2018, and 69.7% in Poland in 2020, while in the Czech Republic it increased to 57.4% in 2015, and to 43.8% in Slovakia in 2021. This demonstrates

considerable variation between the V4 countries and markedly different approaches to GBER consumption for state aid policy. There was a general upward trend in the percentage of aid covered by the GBER in all Visegrad countries. However, it declined (except for Hungary) in the last years of the financial perspective 2007–2013 only to slowly increase in the following years with the availability of funds from the next financial perspective 2014–2021. This demonstrates a strong correlation between a value of state aid in the V4 countries and EU funds availability. Also, in recent years, there has been a gradual alignment with the EU average in the percentage of GBER aid provided. This trend suggests that during the crisis periods triggered by the COVID-19 pandemic and the situation in Ukraine, the V4 countries began utilising GBER opportunities in a similar manner. However, this fact does not imply a convergence of their overall state aid policies.

**Figure 3: Share of GBER state aid in the V4 countries in 2004–2022**



Source: the author's own calculation based on data from the European Commission (2024).

### 4.2. State Aid Similarity Index

In order to capture the convergence of state aid policy in the V4 countries as regards which areas of entrepreneurs' activity receive support, the State Aid Similarity Index (SASI) based on Finger & Kreinin's measure was employed (see: Finger, Kreinin 1979). The formula of the SASI is as follows (Ambroziak 2021):

$$SASI_j^i = \left\{ \sum_i \min [a_j^i, a_{EU}^i] \right\} 100 \tag{2}$$

where:

- $a_j^i$  – is the share of category  $i$  in total state aid in EU Member State  $j$
- $a_{EU}^i$  – is the share of category  $i$  in total state aid in the European Union.

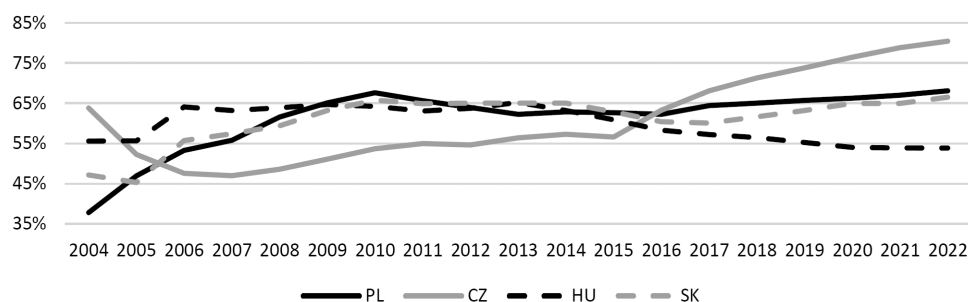
The SASI range is between 0% (which demonstrates a lack of similarity of state aid structure by categories) and 100% (representing a structure identical to the EU total average). Its value is largely dependent on the volume and diversity of state aid categories

included in this indicator, which is highly susceptible to any sudden changes in the value of even one aid category. To ensure the most comprehensive approach to identifying aid policy, the following aid categories were included: regional development, environmental protection including energy savings, research, development and innovation, employment, training, compensation for damage caused by natural disasters, culture and heritage conservation, promotion of export and internationalisation, rescue and restructuring, SMEs including risk capital, and sectoral development.

The study used data concerning state aid expenditures in constant prices, adjusted for inflation using the GDP price deflator (European Commission 2024). For subsequent years, calculations were based on the cumulative value of state aid granted since 2004. However, in the first two years of membership, many restructuring programmes were closed down, which required more financial support and consequently significantly distorted the structure of state aid in the Visegrad countries.

Starting the analysis from 2006, it can be observed that during the first years of the 2007–2013 financial perspective, there was a clear convergence in the structure of state aid granted, as demonstrated by the increase in the SASI indicator. While Hungary, Slovakia, and Poland started with a SASI level of 53–64% in 2006, the Czech Republic recorded a much lower index of around 47.6%. In subsequent years, the SASI value for cumulative state aid in Hungary, Slovakia, and Poland remained relatively stable, oscillating in the range of 63–66%. The Czech Republic's state aid structure sharply contrasted with that of the other three countries, but it gradually approached those levels over time. A landmark year for all the countries was 2016, when funds from the second Multiannual Financial Perspective (2014–2021) began to be distributed. At that time, the Czech Republic began to demonstrate increasing convergence in its aid structure, reaching 80.4% in 2022. Meanwhile, the SASI for Hungary dropped significantly to 53.9%, and reached 66.5% for Poland, 68.1% – for Slovakia. Therefore, the recent crises have reinforced the divergence in the state aid structures of the V4 countries relative to the EU average, despite the similar percentage of aid granted under the GBER. This demonstrates that the existing legal framework still allowed for a highly flexible state aid policy.

**Figure 4: Evolution of the State Aid Similarity Index (SASI) (cumulative) in the V4 countries**

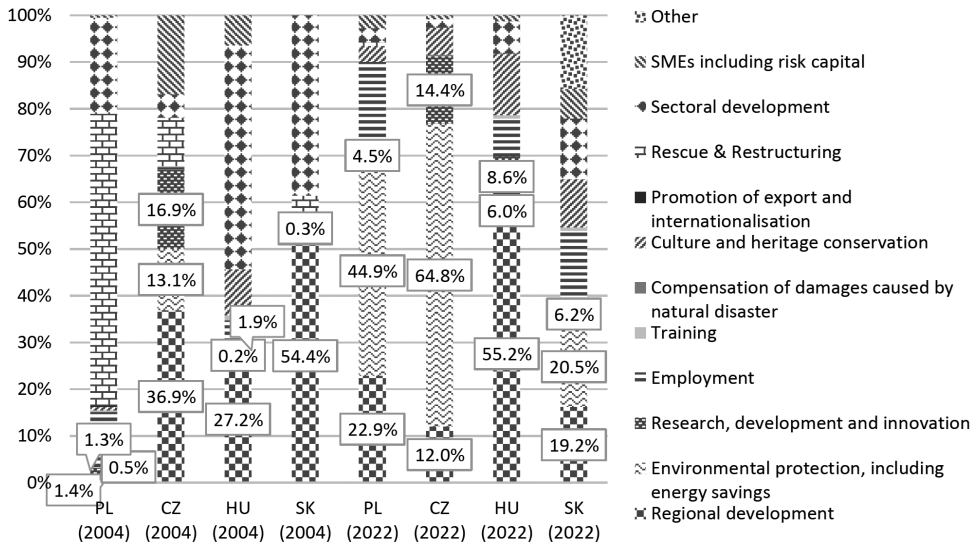


Source: the author's own calculation based on data from the European Commission (2024).

## 5. Evolution of the main targets of state aid in the V4 countries

The structure of state aid in the Visegrad countries at the time of their accession to the European Union varied considerably. This was mainly due to interventionist measures becoming necessary within sectoral restructuring programmes, particularly for heavy industries such as mining, steel, and shipbuilding (see: *Figure 5*). Consequently, only in the Czech Republic was it possible to identify a slightly higher share of some “European” categories of state aid, primarily in R&D&I. By the end of the period under review (2022), the prevalent types of aid in the V4 countries had shifted to regional aid, aid for R&D&I, and aid for environmental protection and energy efficiency.

**Figure 5: State aid structure in the Visegrad countries in 2004 and 2022**



Source: the author's own calculation based on data from the European Commission (2024).

### 5.1. State aid for regional development

Regional aid in the EU was allowed due to significant differences in the development of individual areas. Provision of this aid to entrepreneurs was conditional upon the presence of market failures, such as significantly less developed NUTS-2 areas *versus* the EU average. In the first years after EU accession, Slovakia recorded a particularly high share of regional aid (above 50% of regular state aid), followed by the Czech Republic (36.9%) and Hungary (27.2%) with slightly lower shares (see: *Figure 6*). Poland recorded a particularly low level of regional aid (1.4%), due to a very high proportion of sectoral aid and aid related to enterprise restructuring in connection with EU membership. In the following years, a clear link emerged between the said aid and the successive Multiannual

Financial Perspectives. An exceptionally high increase in the share of regional aid in the structure of granted aid was observed in the Czech Republic and Slovakia during the first full financial perspective, and in Poland and Hungary – during the second financial perspective. This surge was primarily driven by the necessity to bolster the development of lagging regions by providing additional financial support to investors (Ambroziak 2015; Suplata 2015; Dorożyński, Kuna-Marszałek 2016). At the end of the period under review, the share of regional aid still continued to be particularly high, albeit declining, in Slovakia (45.1% in 2022), while it hovered around 30% for the other V4 countries. Thus, irrespective of ideological orientation, each Visegrad country government allocated the majority of this aid type to foreign firms (Medve-Bálint, Éltető 2024).

Regional aid's aim, as intended, is to help regions catch up with the EU average, in relation to which they are identified as beneficiaries of such support. Its objective is also to reduce disparities within a country. In order to capture the changes in regional disparities, we employed the Theil Entropy Index (OECD 2016: p. 176) defined as:

$$T = \frac{1}{n} \sum_{i=1}^n \frac{y_i}{\bar{y}} \ln\left(\frac{y_i}{\bar{y}}\right) \quad (3)$$

where

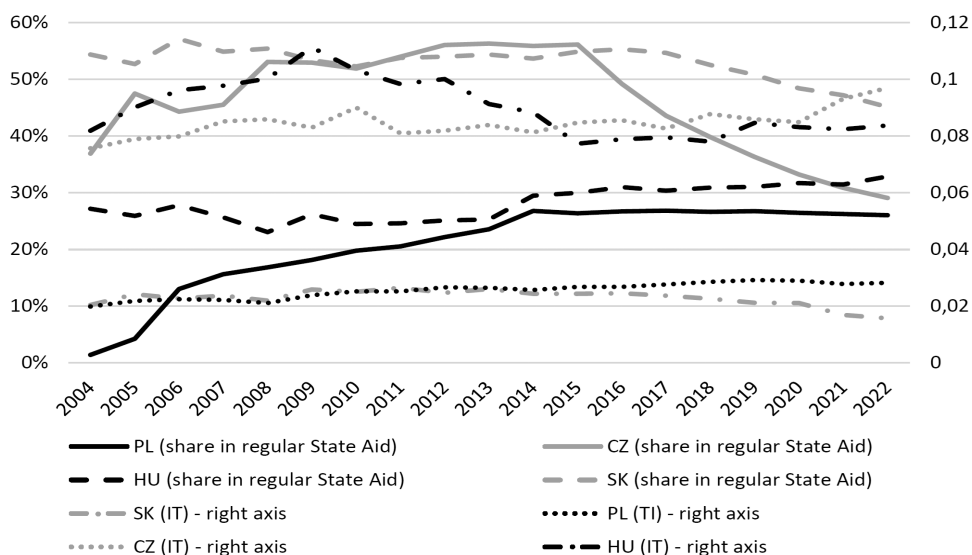
$n$  = number of NUTS-2 areas under review;

$y_i$  – GDP *per capita* of a given NUTS-2 region versus the EU-27 average;

$\bar{y}$  – average GDP *per capita* of NUTS-2 regions in a given Member State versus the EU-27 average.

The closer the Theil Index comes to zero, the smaller the identified inequalities between the surveyed units (NUTS-2 areas of the V4 countries). Poland recorded the lowest inequality index throughout the period under review. However, the rising share of regional aid was accompanied by an increase in the Theil Index, and thus inequality between regions increased (Pearson index 0.9). This trend was also observed in Hungary from 2014 onwards, as confirmed by previous studies (Šimelytė, Liučvaitienė 2012; Šipikál et al. 2013; Éltető, Antalóczy 2017; Mosberger, Varga 2019; Lindstrom 2021). Similarly, Slovakia exhibited a high correlation between the pertinent values (Pearson index 0.7), although there was a decrease in the share of regional aid in total business support, accompanied by a decrease in regional development divergence (Košdy 2023). In contrast, for the Czech Republic, the correlation between the changes in the indicators in question was negative (-0.4), so the increase in divergence was accompanied by a decrease in the share of regional aid, as noted by other researchers (Bolcha, Zemplerová 2012; Balejová 2017; Törös, et al. 2017; Nováčková et al., 2018; Paškrťová et al. 2019). For this reason, it must be emphasised that studies on the Visegrad countries support the theory of a link between measures to promote regional development and greater openness to foreign direct investment (Schito 2022). However, the ultimate success of inflows and reindustrialisation in recent years has been determined by various individual factors to varying degrees (Vukov 2023).

**Figure 6: Share of cumulative regional aid versus regular state aid in V4 countries and changes in divergence (Theil Index), 2004–2020.**



Source: the author's calculation based on data from the European Commission (2024) and Eurostat.

When analysing the changes in the share of regional aid in total regular state aid in relation to the change in divergence, it is not possible to identify a clear link between these variables in the Visegrad countries between 2004 and 2022. Consequently, based on the data at hand, it is not possible to unequivocally identify regional aid as supporting regional development and ensuring the reduction of disparities within the V4 countries.

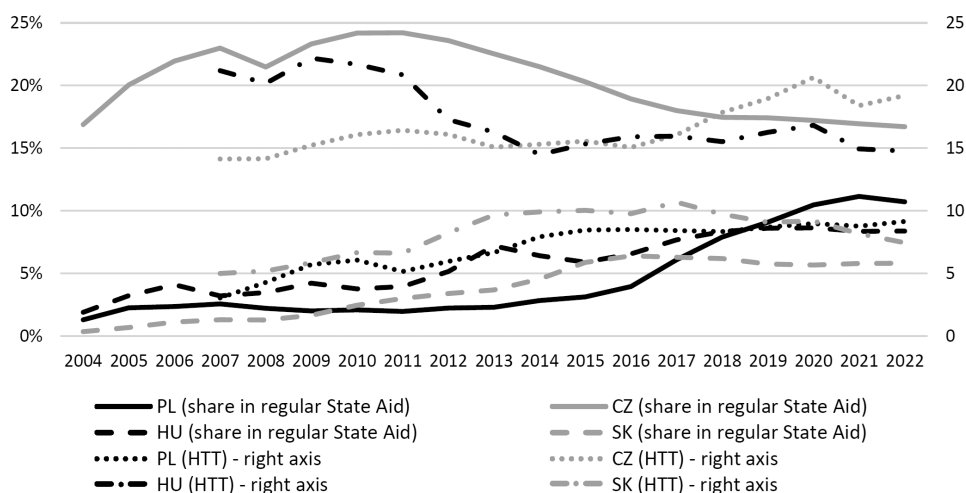
## 5.2. State aid for research, development and innovation

Particularly crucial for further economic development of the EU is aid for research, development, and innovation (R&D&I). However, for the V4 countries, aid of this kind has not played a significant role since their accession to the EU. The Czech Republic represents a notable exception, because it recorded a share of 16.9% of this aid in the total state aid in 2004, *versus* no more than 2% for the other Visegrad countries. In the Czech Republic, this share increased during the first financial perspective to 24.2% (Owczarczuk 2013), but then began to decrease, reaching levels similar to the early years of membership by 2022. In contrast, for the other Visegrad countries, including Poland (Ambroziak et al. 2022), there was a gradual increase, especially during the second full financial perspective, to ultimately reach a range of 6–11% (see: *Figure 7*). In the Czech Republic, however, there was a notable decline in the share of such aid during this period.

The intended effect of R&D&I aid is to stimulate an increase in the production and export of high-tech products. By examining the trends in R&D&I aid in relation to the share of high-tech trade in the total trade of the V4 countries, it becomes apparent that an increase

in the share of R&D&I aid generally coincides with an increase in the share of high-tech trade. However, this relationship was reversed in the Czech Republic, where a decrease in the share of R&D&I aid was accompanied by an increase in the share of high-tech trade.

**Figure 7: Share of cumulative R&D&I aid in the overall regular state aid in the V4 countries and changes in the share of high-tech trade as a percentage of the total**



Source: the author's own calculation based on data from the European Commission (2024) and Eurostat.

### 5.3. State aid for environmental protection and energy savings

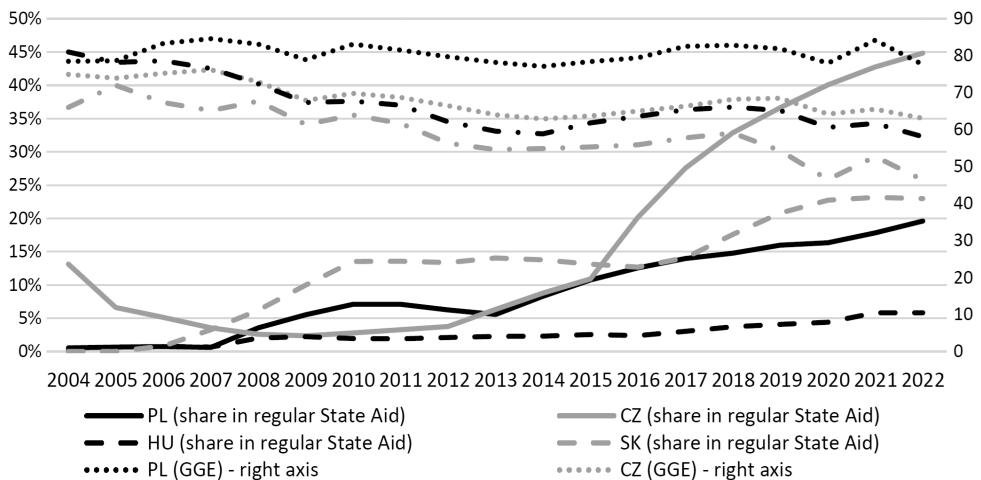
In the context of climate change, aid for environmental protection and energy efficiency is especially important. The highest share of this aid category in the total value of state aid was recorded by the Czech Republic (13.1%) at the beginning of its EU membership. In the following years, this share gradually rose in all Visegrad countries, except that in the case of the Czech Republic, it first declined sharply in the first years after accession only to significantly increase during the second financial perspective 2014–2021 to 44.8% in 2002 (see: *Figure 8*). This result was notably higher compared to Slovakia (23%) and Poland (19.6%), and especially compared to Hungary (5.8%), despite a rising share of this aid in these countries during the second full financial perspective.<sup>2</sup>

To assess the potential impact of the state aid concerned on environmental protection in the V4 countries, it was correlated with greenhouse gas emissions. Despite a growing share of state aid for environmental protection and energy savings, the reduction of greenhouse gas emissions proceeded relatively slowly, and in some cases even encountered resistance. A positive correlation was found for all the Visegrad countries,

<sup>2</sup> This was related in particular to the introduction of EU solutions enforcing such instruments (Ambroziak, Grzegorzewska 2023).

with an increasing share of aid being accompanied by a greater reduction in greenhouse gas emissions (GGE). This correlation was particularly strong for Slovakia, Hungary, and the Czech Republic. However, the correlation was less clear in Poland, where an increase in the share of environmental aid was associated with a stabilisation in GGE reduction. This diversified approach to environmental aid confirms previous research on the Visegrad Group's cooperation, characterised as „largely reactive”. The V4 countries are much more likely to find common ground and agree on joint actions when facing external pressures (Osička et al. 2021; Mišík et al. 2022).

**Figure 8: Share of cumulative aid for environmental protection and energy savings in regular state aid in the V4 countries and changes in net greenhouse gas emissions (1990=100)**



Source: the author's own calculation based on data from the European Commission (2024) and Eurostat.

## Conclusions

EU Member States, including the Visegrad Group, have the freedom to pursue their own state aid policies, but these policies are shaped by the availability of public funds, as well as by substantive and procedural laws. As funding for public interventions in the V4 countries came from both national and European funds, the successive financial perspectives had a significant impact on their state aid policies. It was notably the early years of the first and second full Multiannual Financial Perspectives that left a mark on the volume and structure of state aid in these countries.

During the period under review, the V4 countries, with the exception of Slovakia, exhibited a relatively high rate of state aid intensity, surpassing the average for the EU-27. This intensity increased notably during the first three years of each financial perspective.

Although the intensity of regular state aid decreased during the recent crises, this was more than compensated for by dedicated emergency aid in response to COVID-19 and the situation in Ukraine.

The state aid structures of the individual Visegrad countries varied considerably at the moment of accession in 2004. However, there was a visible alignment with regional aid, environmental protection, and energy efficiency, as well as research, development, and innovation, thanks to European measures which largely directed financial interventions in these countries. Although these categories of aid are the most important in other Member States, the structure of support in the V4 countries still largely diverges from the EU average.

Simple comparisons between individual categories of state aid and indicators of regional development differentiation, high-tech exports, and greenhouse gas emissions do not conclusively confirm a correlation between them. While some converging trends have been observed in certain cases, the impact of aid provided in the V4 countries definitely requires further in-depth research.

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