



The Visegrad Group

– 30 Years of Transformation,
Integration and Development

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The Visegrad Group – 30 Years of Transformation, Integration and Development

The Visegrad Group (V4) was established 30 years ago. The direct aim of this informal forum for regional cooperation were the efforts of countries in this region to integrate with Western international organisations. Firstly, the priority was to ensure security by joining the North Atlantic Treaty Organization (NATO). This goal was achieved in 1999 by the Czech Republic, Poland and Hungary; Slovakia joined in 2004. Secondly, their efforts focused on socio-economic integration, which was primarily expressed in their efforts to join the European Communities. All four V4 countries joined the European Union (EU) in 2004.

Looking back from 2021, the Visegrad Group has spent more years within the structures of European and Transatlantic cooperation than outside them. For this reason, the group's existence over the past 30 years has been dominated by goals linked to cooperation between states during the systemic and economic transition, as well as convergence with Western Europe. Over the years, the Group has turned out to be a convenient way for the countries to consult each other ahead of EU deliberations.

The V4 countries not only cooperated when it came to NATO enlargement and joining the EU, but also in various areas of systemic reforms and social changes, broadly understood – in science and education, culture, regional development, security (fighting crime) and, with varying levels of success, in the context of energy and transport infrastructure.

In this publication, we focus on four aspects of the Visegrad Group that have been its main drivers. Firstly, we show the dynamics of the economic transformation and convergence with the West. The countries in the region entered the “golden age” of their economic development, which turned out to be largely resilient to the negative impact of the financial crisis or the current economic crisis caused by the COVID-19 pandemic. Secondly, we show the social changes taking place: the V4 has become a better place for people entering the labour market than countries in Western Europe. However, the challenge will be the much worse demographic trends in the Visegrad Group over the past thirty years. Thirdly, we point to changes when it comes to politics and security, growing defence spending, V4 citizens' changing perception of threats, and energy security. Fourthly, we also outline the key areas of EU policy coordination between countries of the region, which has become the essence of the functioning of the Visegrad Group.

This publication traces the past 30 years of political and economic transformation, gradual social change, and stabilisation and convergence with Western Europe, up until the current pandemic crisis. This is the starting point for a new challenge and transformation. In 30 years, in 2051, the EU is supposed to become climate neutral. As an increasingly important industrial centre in Europe, the Visegrad Group has a chance to play an important role in this next transformation.

Key numbers

From **64.2** million to
63.9 million

decrease in the number of people living in the V4. Currently 14.3% of the EU-27's population, making it the third-largest consumer market in the EU.

EUR **996** billion

the four V4 countries' GDP (in current prices) w 2019, making them the sixth economic force in the EU.

155%

increase in the V4's GDP (in constant prices) in 1991-2019.

Over three times more
strongly
than in the
EU-15 countries

increase in investments in fixed assets in the V4 countries in 1995-2019.

Over **19**-fold and over
16-fold

increase in the value of V4 countries' exports and imports of goods in 1991-2019.

1.44% of GDP

percentage spent by V4 countries on R&D, over EUR 14 billion per year. In 2000, this was EUR 2.5 billion (0.76% of GDP).

23%

decrease in the volume of greenhouse gas emissions in the EU-15 and V4 countries in the past three decades.

Key findings

- The Visegrad Group (V4) countries have undergone a massive transformation over the past 30 years. They have not only been reunited with Western Europe through EU or NATO integration; they have also made a development leap that has made them the sixth economic force in Europe. **In 1991-2019, their GDP increased by over 150% and its share in the global economy grew to 1.4%.** The region is the third-largest consumer market in the EU, with 64 million people. Foreign demand has fuelled the V4 economies and helped close the development gap. In the 21st century, the income gap between the V4 and the EU began to narrow significantly. **In 2019, GDP per capita in the V4 was nearly 72% of that in the EU-15 and as much as 86% of that in selected southern European countries.**
- The influx of investment funds from abroad – both private funds and EU ones from cohesion policy – played an important role in this process. **Foreign direct investment flowed in rapidly; its cumulative value increased 118-fold, from USD 5 billion in 1991 to USD 565 billion in 2019. Moreover, countries in the region received funds from the EU budget – total EU spending in the four countries reached EUR 340 billion, or EUR 240 billion in net terms.** To this day, the Visegrad Group has recorded a higher rate of investment than the "old EU" countries. Investment attractiveness, and especially the intense influx of FDI, has allowed the V4 to join global value chains, tying themselves to the

German economy especially strongly. **In three decades, the Visegrad Group has become Germany's most important trading partner, both in terms of exports and imports, accounting for 1.5 times the trade between Germany and China.** The V4's share in global exports has increased from 1% to 3.6% and the region began to record a positive trade balance in 2012. There has also been a technological transformation in the Group's exports, which medium-high and high-tech products began to dominate.

- Although there has been a significant reduction in development gaps, they remain important. The share of high-tech goods in V4 exports is still lower than in those of countries in the "old EU". **Likewise, none of the countries has reached the EU average when it comes to R&D spending as a proportion of GDP.** Demography remains a significant development challenge. **The V4 countries' population has decreased by 1% in 30 years, while the old EU's population has increased by 12%.** The problem is not just the negative birth rate since 2011, but also the failure to attract migrants. The number of migrants in the old EU-15 has more than doubled since 1990, from 23 million to 56 million; in the V4, it has remained at the same level of 1.6 million people. Another challenge is professional activity among women, which remains lower in the Visegrad Group and is not being levelled. **At the same time, a positive change compared to other EU countries is the unemployment rate,**

which has been much lower than in the old EU since the financial crisis, especially among young people.

- Apart from socio-economic development, the defence dimension of integration with the West was of key importance for the Visegrad Group. **By joining NATO by 2004, all four countries were permanently included in Transatlantic security structures.** A positive attitude towards the NATO prevails in all countries. In 2014, the states established a Visegrad Battlegroup with over 2000 soldiers, which deepens regional security cooperation. Defence spending remains a challenge: **apart from Poland, the countries still have not reached the target of 2% of GDP.** Apart from hard security, the improvement in energy

security and internal security (such as the decrease in the number of homicides) has been significant.

- The last, but perhaps the most important aspect of the 30th anniversary of the Visegrad Group's establishment, is the V4's development of permanent forms of political cooperation. **The V4 has become a convenient way for the countries' governments to consult each other ahead of taking action in the EU arena, especially when it comes to the budget, internal market, foreign affairs and migration.** The only permanent V4 institution is the International Visegrad Fund established in 2000, which has allocated EUR 100 million towards scientific and artistic scholarships, as well as expert activity, since then.



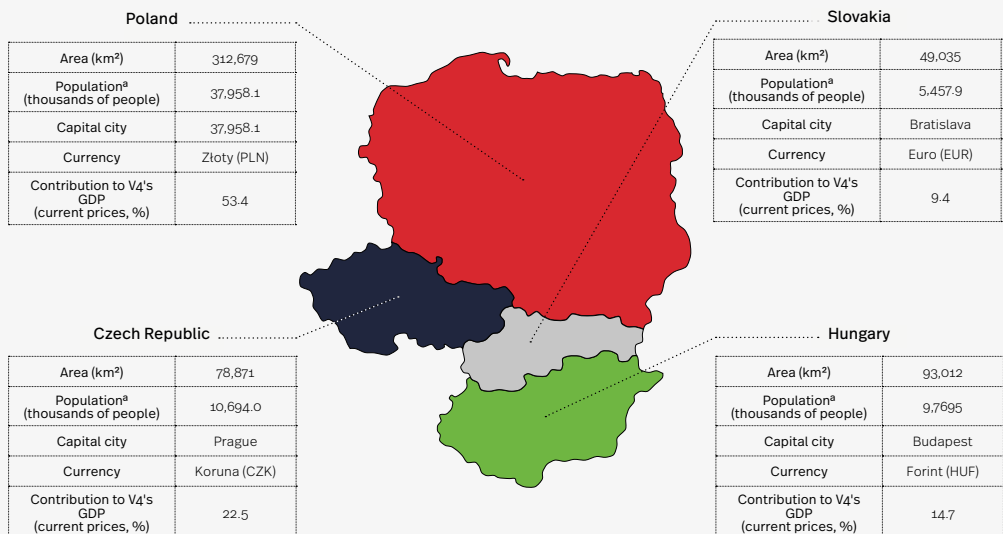
The Visegrad Group today

The Visegrad Group countries cover an area of 533,597 km², which 12.6% of the EU-27's area or slightly smaller than France (633,187 km²). They have 63.9 million inhabitants, 14.3% of the EU-27's population, which makes them the third-largest consumer market in the EU, after Germany (83.2 million) and France (67.1 million). The V4 countries' economies have a relatively high share of industry in gross value added (higher than the EU-27 average). They try to attract foreign investment, often competing with each other. About 4.1 million non-financial enterprises operate in the V4 countries (Eurostat data for 2018), of which 95.3% are micro-enterprises and just 0.16% large enterprises.

Moreover, there are around 1.9 million farms in these countries (Eurostat data for 2016). All the countries are dependent on imports of energy resources and mainly seek sales markets in Western Europe. Their largest trading partner is Germany. They are also Germany's most important trading partner by far, accounting for 12.5% of its imports, twice as much as China in this respect (data from 2019).

Of the V4 countries, only Slovakia belongs to the Eurozone (since 1 January 2009); the other countries still use their national currencies. All four countries have been in the Schengen area since 21 December 2007. In all of them, the national language is the official language.

Map 1. The Visegrad Group: general view



^a Data as of 1.01.2020.

Source: prepared by PEI based on: Eurostat Database (2021), Council of the European Union (2020).

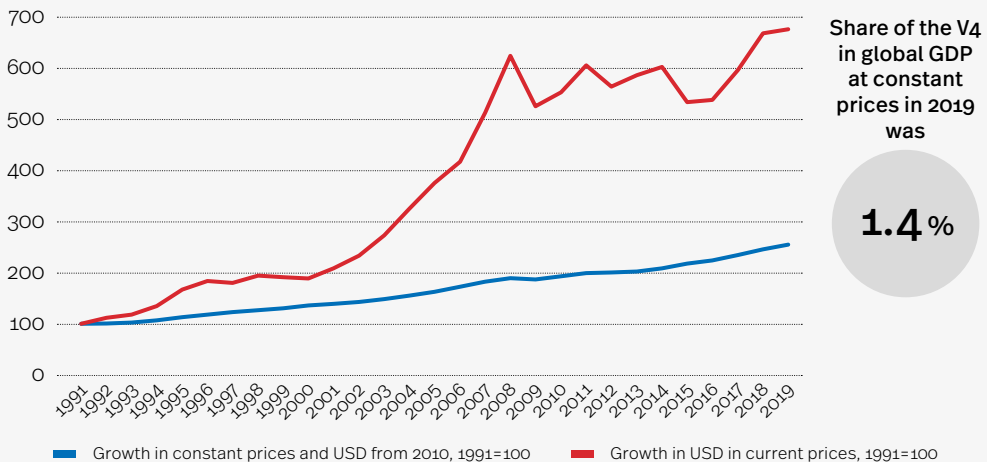
V4 – economic integration

Real convergence with Western Europe

In 2019, the V4 countries' GDP (in current prices) amounted to EUR 996 billion, making them the sixth economic force in the EU at the time (after Germany, France, Britain, Italy and Spain). In 1991-2019, the Group's GDP in constant prices increased by 155%. The Polish economy grew the most, more than threefold. The V4 countries' economic growth increased their

integration with the global economy. In 2019, their share in the global economy (measured in terms of GDP at constant prices) was 1.4%, 0.2 pp. higher than in 1991. Since joining the EU, the V4 countries' importance in the EU economy has increased clearly, from 4.6% in 2004 to 6.2% in 2019 (measured in terms of GDP at constant prices).

Chart 1. V4 countries' GDP growth

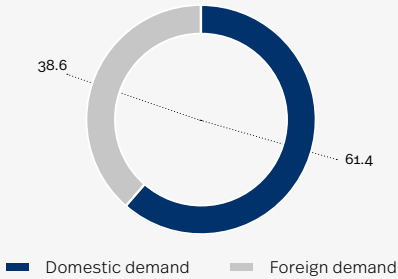


Source: prepared by PEI based on: World Bank (2021).

In 1995-2019, with the countries' progressive economic development, there was a decrease in the role of agriculture and a systematic increase in the importance of the service sector, while maintaining the significant role of industry.

The services sector's share in gross value added generated in the entire economy increased the most in Poland (from 55.8% in 1995 to 65.4% in 2019) and the Czech Republic (from 56.6% to 63.1%).

➤ **Chart 2. Structure of GDP by source of demand (average for the V4 countries, %)**

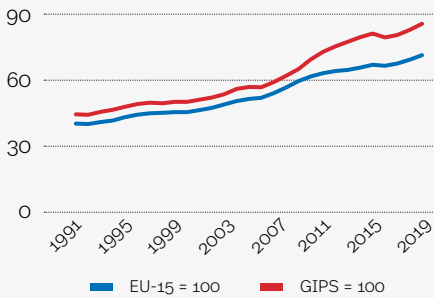


Source: prepared by PEI based on: OECD-TiVA (2018).

Increasing foreign demand was an important source of the economic growth in the V4 countries.

In particular, it applied to products manufactured in highly internationalised branches of the processing industry, including the automotive and machine industry. According to the latest available data from the OECD TiVA database (2018), in 2015 foreign demand played the greatest role in generating the GDP of Hungary, Slovakia and the Czech Republic (from 48% to 44%). In Poland, this was 32%.

➤ **Chart 3. V4 income gap in 1991-2019 (GDP per capita according to PPP in current prices)**

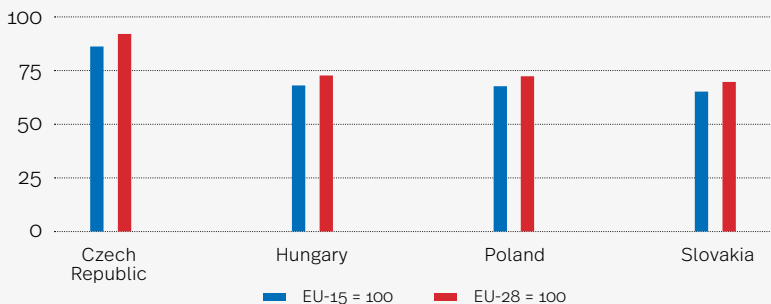


Note: GIPS – Greece, Italy, Portugal and Spain.
Source: prepared by PEI based on: World Bank (2021).

Economic growth in the V4 countries helped decrease the level of development in these countries and the income gap between them and the “old EU”.

In the 1990s, this process was slow. In 2000, GDP *per capita* (in current prices) in the V4 according to the purchasing power parity was just 45% of the EU-15 average. The narrowing of the income gap between the V4 and the EU clearly accelerated after they joined the EU. **In 2019, GDP *per capita* in the V4 amounted to nearly 72% of that in the EU-15 and as much as 86% of that in the southern European countries (Greece, Italy, Portugal and Spain).** In 2019, the Czech Republic had the least catching up to do in terms of economic development and income. Its GDP *per capita* was 92% of the EU-28 average. In the other V4 countries, this percentage was lower, oscillating around 70-73%.

➤ **Chart 4. The income gap in the V4 countries in 2019 (GDP per capita at PPP in current prices)**



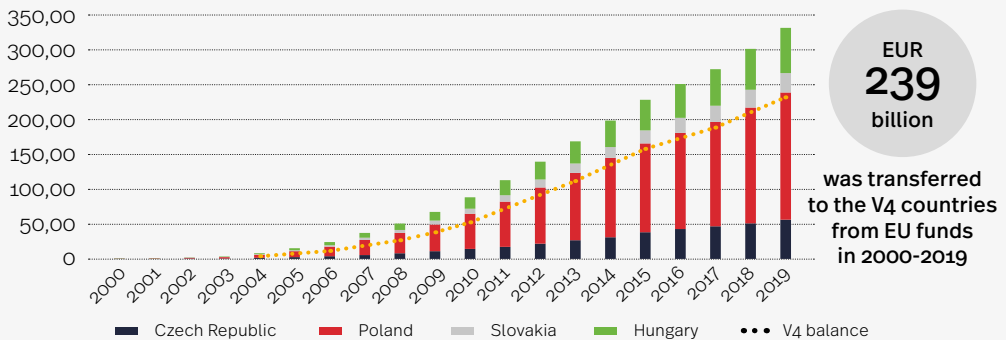
Source: prepared by PEI based on: Eurostat Database (2021).

Beneficiaries of EU funds

The economic convergence of Central Europe is supported by EU funds, primarily as part of cohesion policy, which aims to reduce the income gap between member states. Since they joined the EU, the V4 countries have

been net beneficiaries of EU budgetary funds, which means that they receive more of them than they contribute to the budget. The balance in 2000-2019 was favourable for the V4 countries, amounting to almost EUR 240 billion.

➤ **Chart 5.** Accumulated influx of EU funds to the V4 countries in 2000-2019 (billions of EUR)



Source: prepared by PEI based on European Commission data (2020a).

In 2004-2019, over EUR 327.6 billion was transferred from the EU budget to the V4 countries – 15.8% of the EU's cumulative budgetary spending during this period. The biggest beneficiary in the V4 was Poland (55.2% of the transferred funds). The other Visegrad countries received a much smaller share: Hungary got 19.6%, the Czech Republic 17.0% and Slovakia 8.2%.

Even before accession, the V4 countries received support from the EU budget in the form of pre-accession funds; over EUR 7 billion in total.

The largest funds transferred to the V4 countries from the EU budget in 2004-2019 were allocated as part of cohesion policy (EUR 207.6 billion) and the common agricultural policy (EUR 102.7 billion).

V4 received **30.6%** of the EU budget expenditure allocated to Cohesion Policy and **11.6%** to Common Agriculture Policy



During their first 15 years of EU membership, the Visegrad Group countries contributed EUR

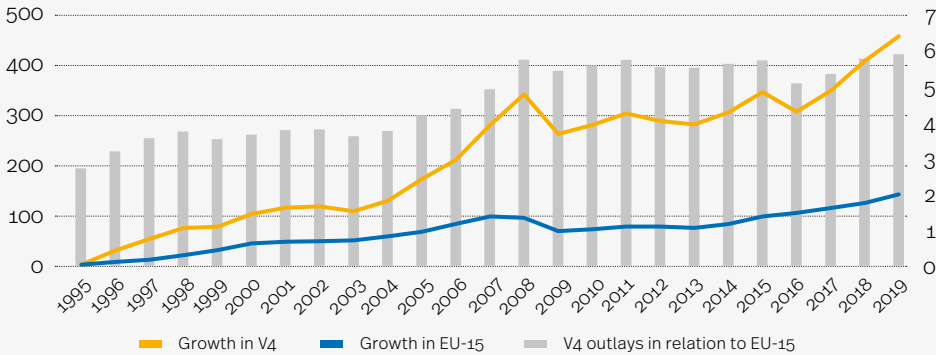
92.4 billion to the EU budget, around 5.5% of the EU's total budgetary revenue over that period.

High growth in investment outlays

Access to EU funds contributed to the revival of investment activity in the V4. **Investment in fixed assets in the V4 countries increased more than three times faster than in the EU-15**

countries in 1995-2019, by 369.8% and 116.3% in current prices in euros respectively. In 1995, the Group's investments corresponded to 3.1% of those made in the EU-15. In 2019, this was 6.8%.

▼ **Chart 6.** Growth in V4 and EU-15 countries' investment outlays (1995=100, left axis) and V4 investments as a percentage of EU-15 outlays (right axis)

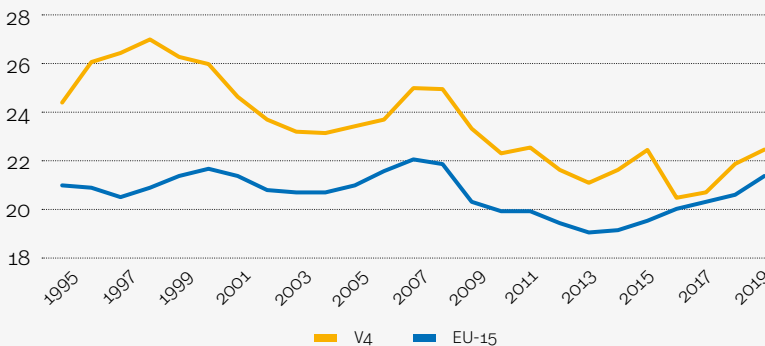


Source: PEI calculations based on Eurostat Database (2021) data.

The V4 group was also ahead of the EU-15 in terms of the investment rate, the ratio of investment outlays to GDP. On average, in 1995-2019, the investment rate in the V4 was 23.5%, compared to 20.6% in the EU-15. It is

worth noting, however, that in recent years this advantage has clearly decreased: from around 6 pp. at the peak of the V4's economic transformation (in 1997-1998) to just 0.4-1.2 pp. in 2016-2019.

▼ **Chart 7.** Investment rate in V4 and EU-15 countries (%)



On average, in 1995-2019, the investment rate in the V4 was

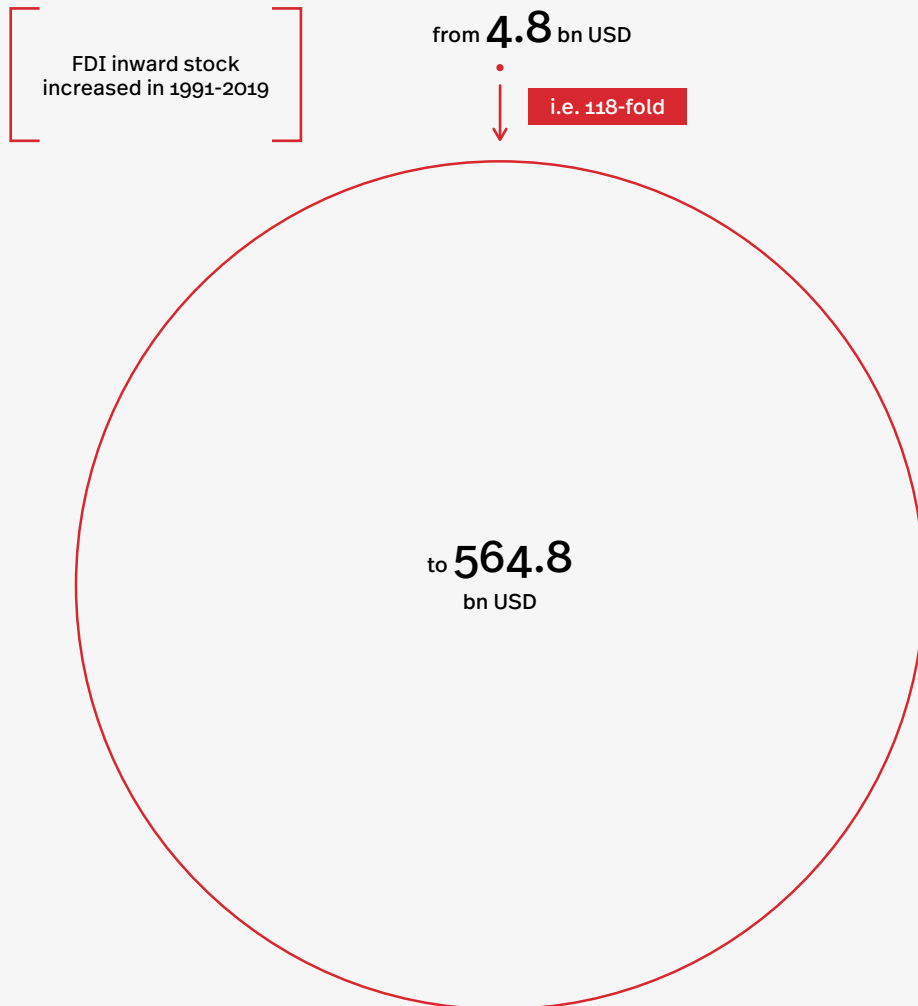
23.5%

Source: prepared by PEI based on: Eurostat Database (2021).

An attractive place for foreign direct investment

A significant external source supporting the V4 countries' economic transformation was the influx of foreign direct investment (FDI). In 1991, the year the Group was created, its total volume was still small (USD 2.4 billion to all the members, according to UNCTAD (2021)), but it grew rapidly,

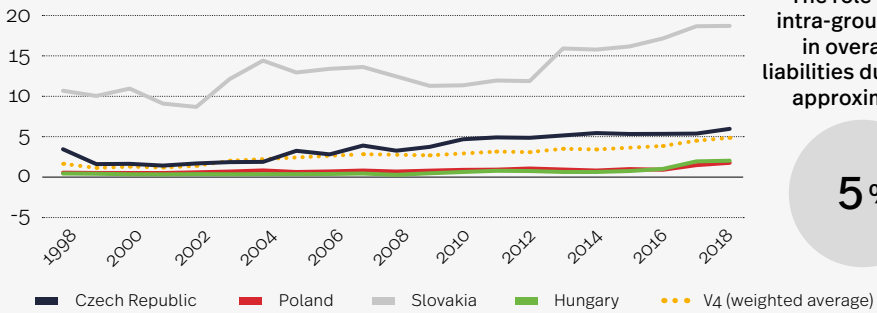
exceeding USD 25 billion the year the countries joined the EU. It reached a record value of USD 38.2 billion in 2007, before the outbreak of the global financial and economic crisis. **In 2019, USD 28.5 billion in FDI entered the V4, 7.3 per cent of the influx to the EU-15 (USD 387.8 billion).**



As a result of the intensive influx of FDI, the V4 countries' liabilities from this source – inward stock – increased. In 1991-2019, they increased 118-fold, from USD 4.8 billion to USD 564.8 billion, and, in relation to the EU-15's commitments, from 0.5% to 5.5%. At the end of 2019, Poland (41.9%) had the largest share in the Group's overall liabilities due to the influx of FDI, followed by the Czech Republic (30.2%), Hungary (17.3%) and Slovakia (10.6%).

The influx of FDI to the V4 countries mainly came from the EU-15 area (around 80% of the total liabilities, at the end of 2018), largely from Germany (16%) (WIIW, 2021). The share of FDI from the EU was relatively stable during the entire period after 1998, while Germany's share declined significantly (in 2018 it was 13.6 pp. lower, i.e. almost half the share at the start of the period).

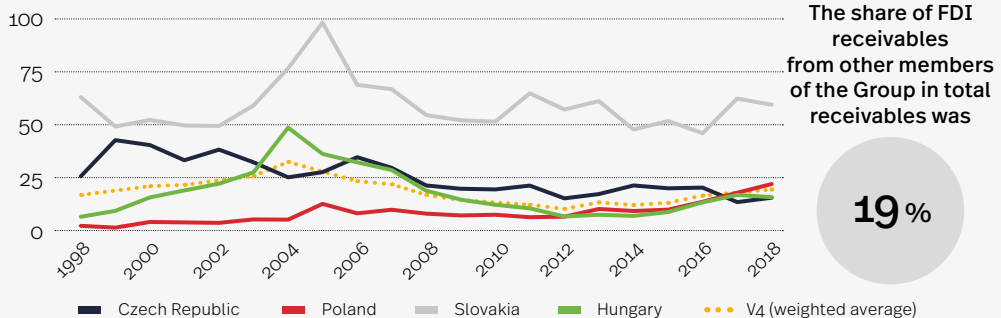
▼ **Chart 8. V4 countries' investment links in terms of influx of FDI (liabilities to other members of the Group against total liabilities, %)**



Source: prepared by PEI based on: WIIW (2021).

The role of the intra-group flows in overall V4 liabilities due to FDI was relatively small, although clearly growing. Their share increased from 1.4% in 1998 to 4.9% in 2018, with considerable variation between the countries.

▼ **Chart 9. V4 countries' investment ties in terms of FDI outflow (receivables from other members of the Group in relation to total receivables, %)**



Source: prepared by PEI based on: WIIW (2021).

FDI outward stock in V4 countries increased

from just **0.4** bn USD in 1991

to **108.7** bn USD in 2019

Given their phase of economic development, the influx of FDI to the Visegrad Group countries still exceeds their own investment commitment abroad. At the end of 2019, their liabilities due to the influx of FDI were more than five times higher than the receivables due to the outflow. For comparison, in the EU-15 countries, the level of liabilities and receivables was similar; the latter were nearly a quarter higher. **The Group's FDI receivables (outward stock) increased from just USD 0.4 billion in 1991 to USD 108.7 billion in 2019.** Nevertheless, at the end of this period, they amounted to just 0.8% of the receivables reported by EU-15 countries.

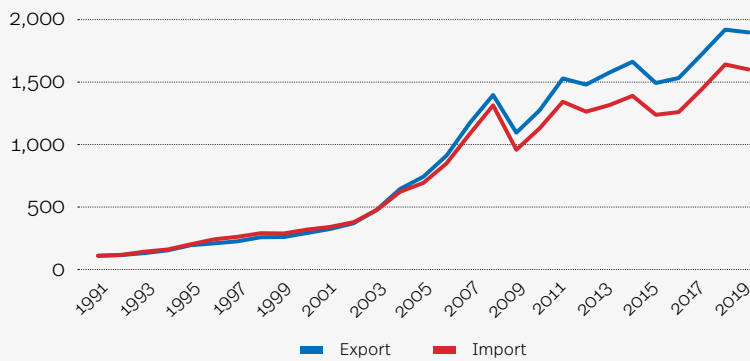
In terms of the location of FDI by the Visegrad Group countries, EU-15 countries played a less dominant role than in the case of the origin of investments flowing into the V4. As at the end of 2018, the EU-15's share in total V4 receivables from FDI was 45.3%, compared to the 80% share in commitments. The attitude to mainly investing in neighbouring countries, characteristic of many novice foreign investors, fostered orienting V4 FDI towards other countries in the Group. **The share of receivables due to intra-group FDI in total V4 receivables from this outflow was 19.2% at the end of 2018.**

On the map of world trade

In 1991-2019, the value of exports of goods from the V4 countries increased over 19-fold and the value of imports over 16-fold. This was the result of the systemic transformation of these countries' economies, their participation in processes of economic integration, as well as the influx of FDI, and, as a result, the V4's integration into global supply chains, among other things.

As a result, their degree of integration into the world trading system has increased. In 1991-2019, the V4's share in global exports increased from 1.0% to 3.6%. For imports, it grew from 1.1% to 3.4%. The countries' greatest advancement in world trade took place before they joined the EU and during their first five years as members (2004-2008).

Chart 10. Changes in the V4 countries' trade in goods (1991 = 100)

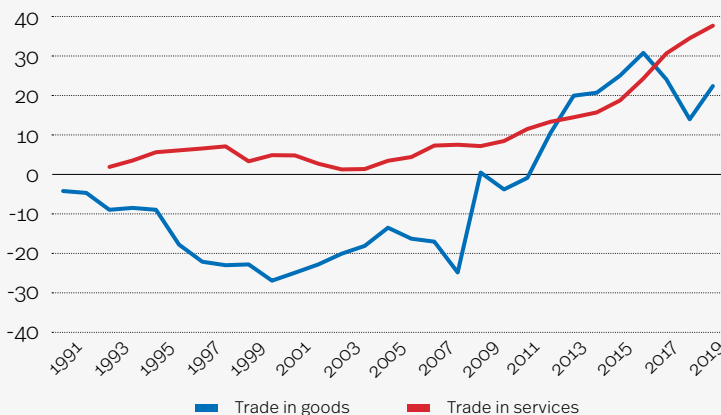


In 1991-2019, the value of exports of goods from the V4 increased

19-fold

Source: prepared by PEI based on: UNCTADStats (2021).

Chart 11. V4 countries' balance in trade in goods and services (billions of EUR)



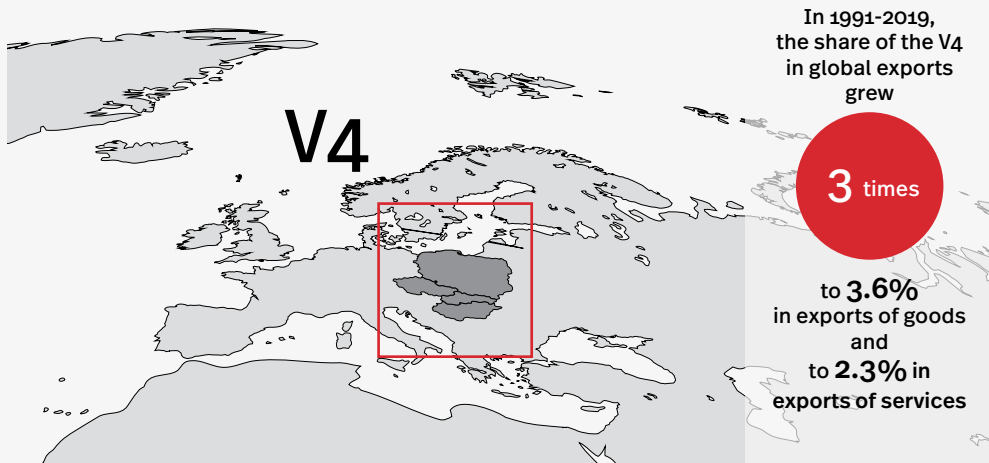
Note: data on trade in services for 1993-2009 based on BPM5 and data for 2010-2019 based on BPM6. No data for 1991-1993.

Source: prepared by PEI based on UNCTADStats (2021).

The V4 countries' trade in services developed less rapidly. Nevertheless, in 1993-2019, their significance in global trade increased.

In 2019, the V4 countries accounted for 2.3% of global exports of services and 1.7% of their imports.

↘ **Map 2. V4's share in global trade in goods (%)**



Source: prepared by PEI based on: UNCTADStats (2021).

The high demand for intermediate and investment goods related to the V4's economies' structural transformation and the influx of FDI was the main factor behind the negative balance of trade in goods in the V4 states, which lasted for years. **A constant surplus has only been recorded since 2012.** The Czech Republic makes the largest contribution to generating a positive balance; in 2019, it accounted for almost 80 percent of its value. **During the period analysed, the balance when it came to trade in services was constantly positive.** In 2015-2019 alone, its value more than doubled, to EUR 38 billion (68% more than the surplus in trade in goods).

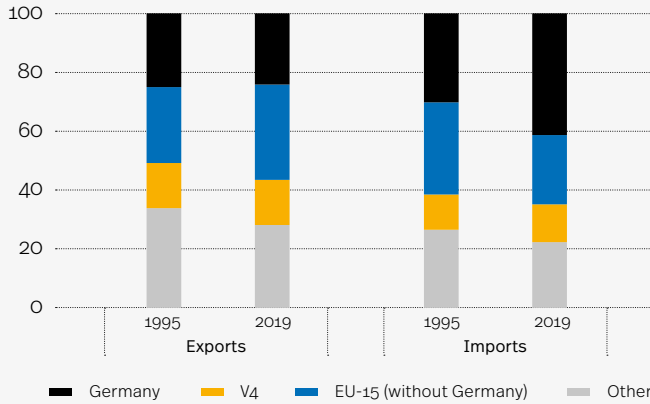
Although Germany's importance in the V4 countries' trade in goods has decreased, it is still the largest market for goods produced in the V4 and the largest supplier of goods to these countries. In 2019, over 28% of V4 countries' exports went to the German market. **EU mem-**

bership contributed to the marked revival of trade between the V4 countries. This resulted in an increase in the share of intra-group trade.

In 2019, over 15 percent of the events took place inside the Group. all of its exports of goods.

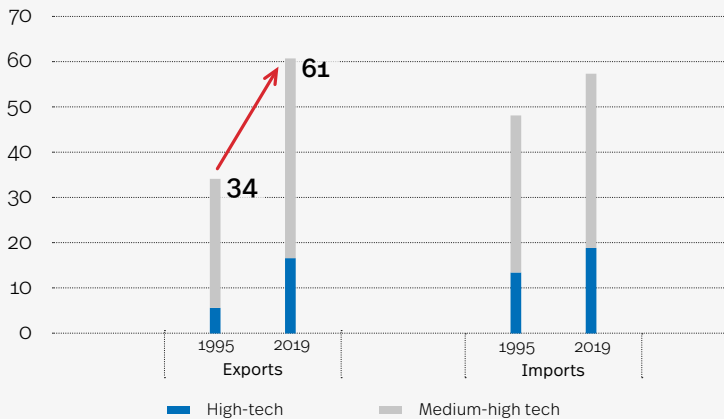
Over the period analysed, there were favourable changes in the commodity structure of the V4 countries' exports. The importance of low and medium-low tech products decreased, while the share of medium-high products, manufactured in the sectors of industrial processing with the highest amount of FDI (including the automotive industry, and the production of machinery and equipment) increased. In 2019, medium-high tech products accounted for 44% of the Group's exports. The importance of high-tech products has tripled, but their share in the V4 countries' exports is still lower than in the EU-15 countries. In 2019, it was 16.7%, compared to 21.4% for the EU-15.

Chart 12. Main partners of the V4 in trade in goods (%)



Source: prepared by PEI based on: WITS-Comtrade (2021).

Chart 13. Share of high and medium-high technology products (%)



Source: prepared by PEI based on: WITS-Comtrade (2021).

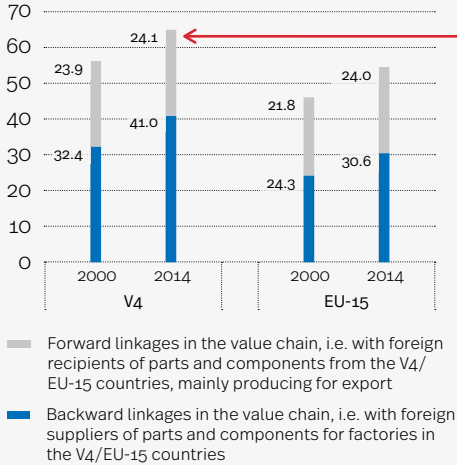
In global value chains

Since the start of the 1990s, the influx of FDI has made the V4 countries part of global value chains (GVC). According to the latest available data from the WIOD Release 2016 database, in 2014 the countries' share in GVC was 65%. This meant that nearly two-thirds of V4 exports of goods and services were the result of

companies' involvement in global value chains.

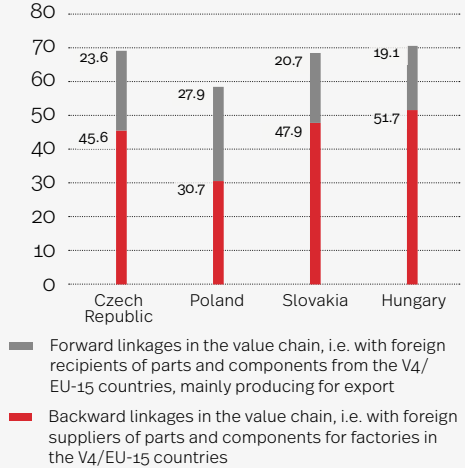
This was around 10 pp. more than in the EU-15. The exports of Hungary, the Czech Republic and Slovakia were the most internationalised (the GVC index oscillated around 70%). Poland's were the least internationalised (58.6%).

Chart 14. Indicators of the V4 and EU-15 countries' share in GVC (% of gross exports of goods and services)



Source: PIE's calculations based on: WIOD (2016).

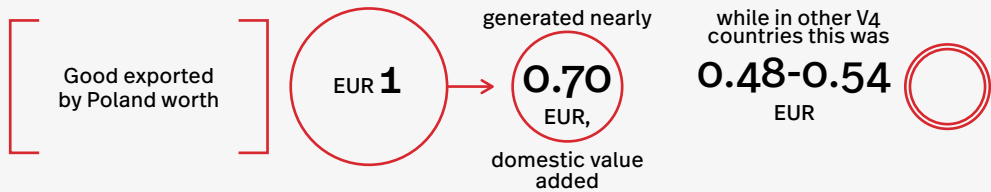
Chart 15. V4's involvement in GVC in 2014 (% of gross exports of goods and services)



Source: calculated by PEI based on: WIOD (2016).

Hungary, Slovakia and the Czech Republic had stronger backward linkages in value chains (i.e. with foreign suppliers of parts and semi-finished products for production) than Poland. This meant that these three countries' exports relied more on foreign value added than Polish

exports. Of the V4 countries, Poland had the strongest forward linkages in value chains, i.e. with foreign recipients of Polish parts and components producing for export. In other words, value added reaching foreign recipients indirectly, via other countries, was very important for Polish exports.



Germany and the V4 countries have become one of the centres of industrial processing in Europe. Germany was both the largest supplier of foreign contributions to the V4 countries' exports and the largest exporter of the value added generated in the V4. Germany is at the centre of this: it has the weakest backward linkages with

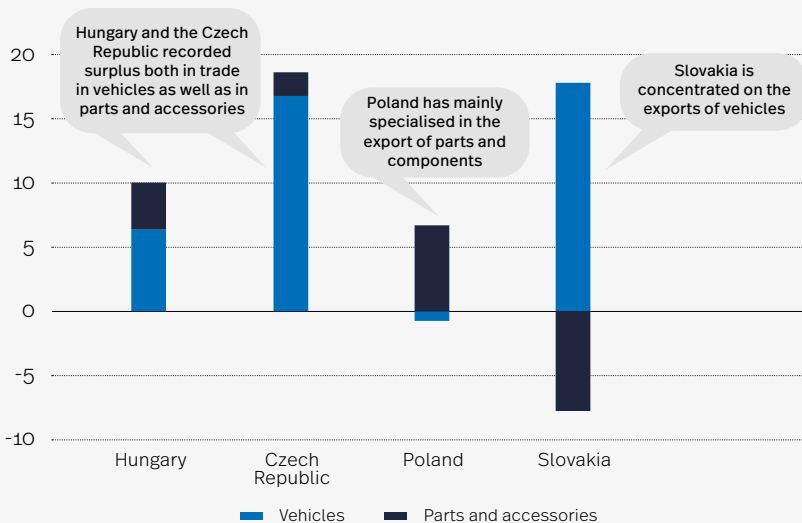
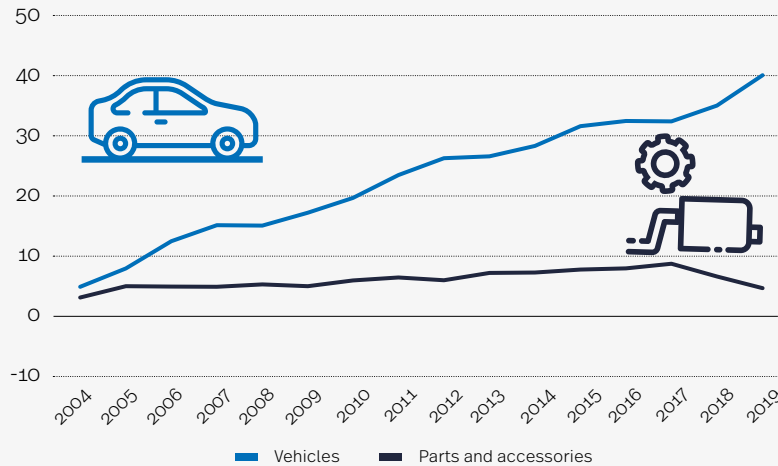
the other countries and the strongest forward ones (Stehrer & Stöllinger, 2015).

One of the industries that owes its rapid development to its inclusion in global supply chains thanks to FDI is the automotive industry. It has become an important part of the V4 economies, generating over 3% of their GDP. In

fact, large-scale cooperation with other industries means that its influence on the V4 economies is much greater. **Since the V4 countries joined the EU, their surplus in the trade of vehicles has increased almost ten-fold**, with a continuous positive balance in the trade of automotive parts

and accessories. Slovakia has become a major exporter of cars, mostly made of imported parts and components. Poland has mainly specialised in the export of parts and components, as well as buses. Hungary and the Czech Republic have also developed the production of parts.

➤ **Chart 16. V4 trade balance in automotive industry products (billions of EUR)**



Source: prepared by PEI based on: Eurostat-Comext (2021).

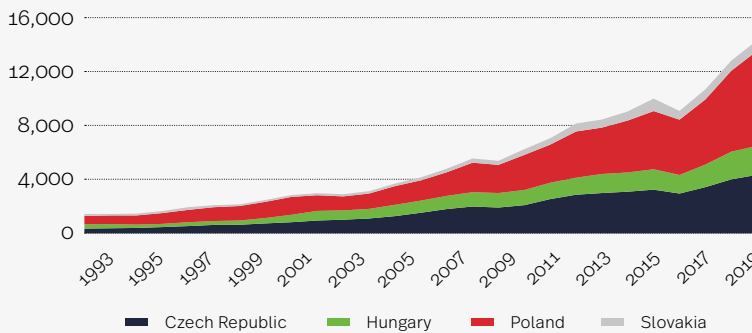
Three decades of creating an innovative economy

Spending on research and development (R&D) is one of the most important categories related to countries' technological development and economic prospects. The Visegrad Group started with a relatively low level of R&D spending at the beginning of the 1990s. Along with the economic transformation, the V4 countries started to rapidly catch up with the EU average and systematically increased the value of spending on R&D, not only in absolute terms, but also in relation to GDP. Although spending on R&D in all the V4 countries in 2019 was below the EU

average (2.2% of GDP), all of them significantly narrowed this gap. The Czech Republic is the regional leader in this respect: it reduced this gap from 0.7 pp. in 2000 to 0.26 pp now. In Poland's case, it decreased from 1.17 pp. in 2000 to 0.88 pp. Employment in R&D also increased in the V4 countries. In 2019, there were 321,000 people working in R&D, more than twice as many as at the beginning of the century. Spending on R&D grew on average by 9.2% in 1993-2019; for employment, it has been 4.4% on average since 2000.



Chart 17. Spending on R&D in V4 countries (millions of EUR)



in 2019 the R&D spending in relation to GDP was

1.4 %

Source: prepared by PEI based on: Eurostat Database (2021).

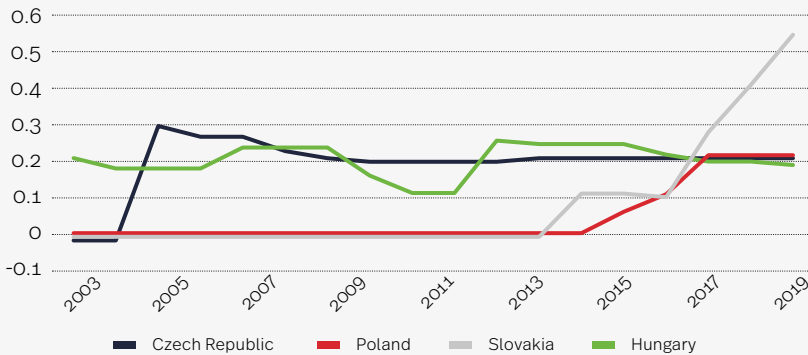
In recent years, tax systems have become an important part of competing to attract R&D. Countries have been introducing various types of tax credits, deductions and special conditions

for R&D centres to attract innovative activity (Święcicki, 2019). The V4 is no exception and the goal of catching up with richer countries in Western Europe means that the incentives are

relatively high. **The leader is Slovakia, where support for SMEs is the second-highest among the OECD countries (after Colombia); for large companies, it is the highest.** The level of support varies depending on the size of the company

(it differs between SMEs and large companies) and whether the company generates profits or settles losses – but in almost all these situations, the level of tax support in the V4 is above the median in the OECD countries.

➤ **Chart 18.** Tax support for profitable SMEs in the V4 countries (value of the 1-B index, i.e. the implied tax subsidy rate)



Note: A value of 1 means that 100% of R&D spending reduces the value of the income tax paid. A value of 0 means that the spending does not affect the amount of tax (Warda, 2002; OECD, 2018).

Source: prepared by PEI based on OECD data.

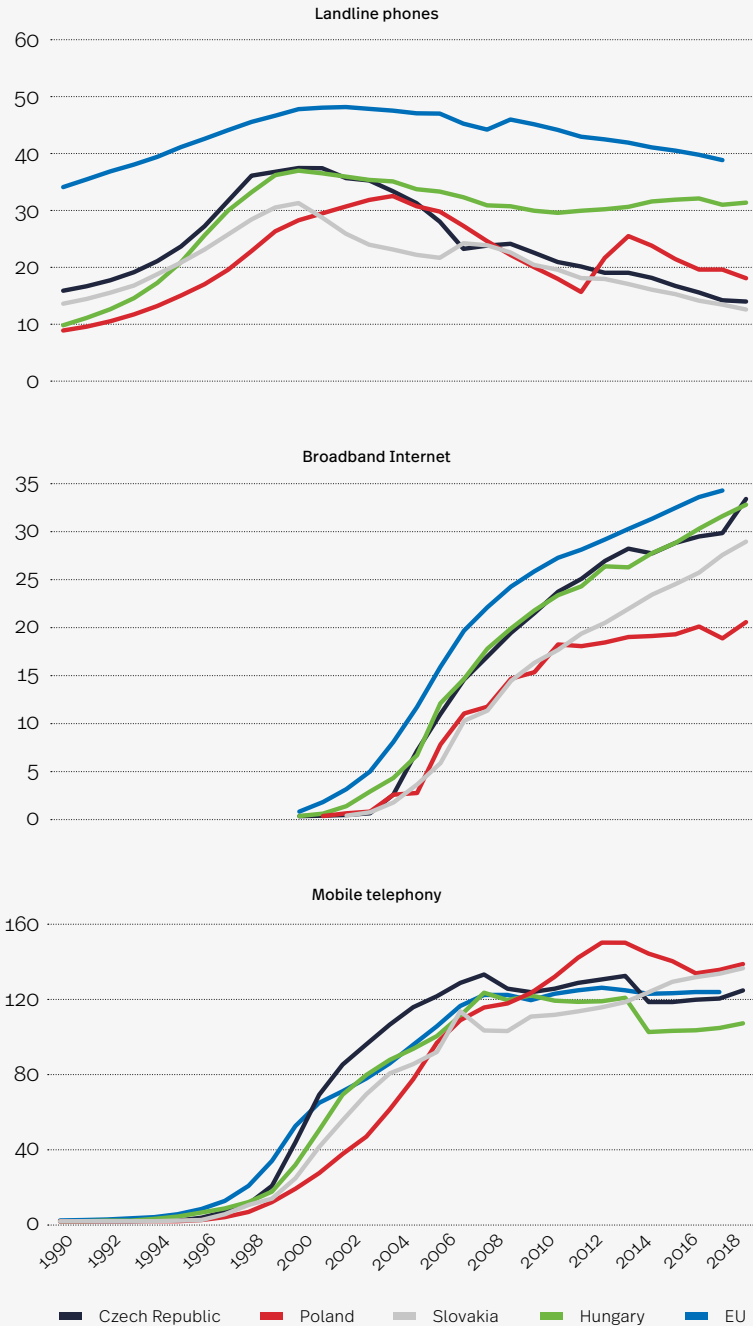
Digital service infrastructure

The Visegrad Group entered the 1990s significantly behind Western European countries in terms of modern technology infrastructure. The number of landline subscribers per 100 inhabitants in the Czech Republic was less than half of the EU average. The penetration of telephone infrastructure is important because it provided the foundation for the development of broadband Internet, where technology based on copper telephone wires dominated for a long time. However, while landline phone penetration in the V4 countries has remained significantly below the EU average, these countries have managed to narrow the gap when it comes to

broadband Internet access. **When it comes to comprehensive measures of connectivity, Hungary and Poland were above the EU average in 2020** (based on the Digital Economy and Society Index results).

The development of mobile networks is a major success. This infrastructure was less dependent on legacy networks inherited from the communist era, the countries' citizens were enthusiastic about mobile technologies, and the number of active SIM cards per number of inhabitants did not differ from the EU average. In Poland, it was even among the highest in the EU.

Chart 19. Penetration of selected technologies in V4 countries in 1990-2019 (number of subscriptions per 100 inhabitants)



Source: prepared by PEI based on: World Bank (2021).

V4 – social integration

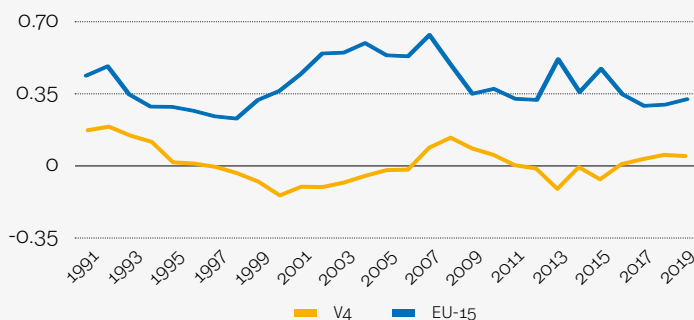
Demography and migration

The demographic situation of the Visegrad Group countries is worse than in the “old EU”.

In 1991-2019, the V4 countries' population decreased by around 0.5%, from 64.172 million to 63.879 million (data from 1 January of each year). Over the same period, the EU-15's population continued to grow; between 1991 and 2019, it increased almost by 12%. Several factors

contributed to this discrepancy. First, the negative balance in the V4 was influenced by the negative birth rate in 1996-2007 and 2011-2019 (over the whole period analysed, the indicator was negative in Hungary). In the “old EU”, the birth rate has only been negative since 2017. In both areas, there has been a downward trend since the financial crisis in 2008.

Chart 20. Change in population in 1991-2019 in the V4 and EU-15 countries (%)



V4 countries' population decreased by around 0.5% in 1991-2019 period

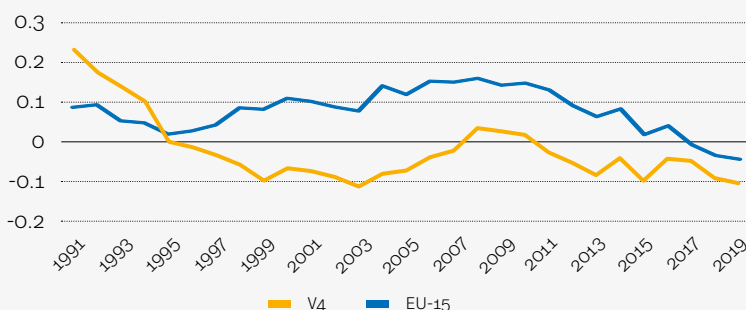
0.5%

The EU-15's population continued to grow over the same period

Note: the data points relating to population change reflect the changes in a given year.

Source: prepared by PEI based on: Eurostat Database (2021).

Chart 21. Birth rate in 1991-2019 in the V4 and EU-15 countries (%)

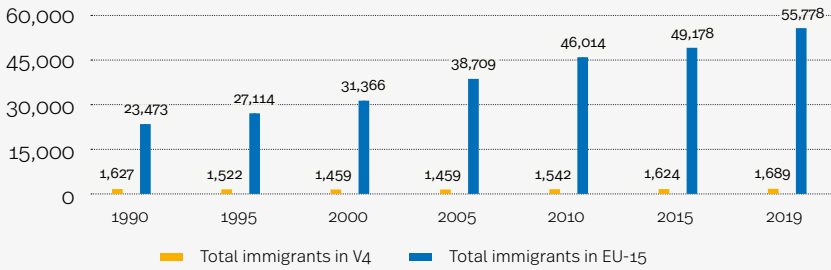


Source: prepared by PEI based on: Eurostat Database (2021).

Secondly, apart from births and deaths, the demographic situation has also been influenced significantly by migration. In 1990-2019, migration trends in the V4 countries and

the EU were fundamentally different. **During this period, the number of migrants living in the “old EU” countries more than doubled. In the V4 countries, it hardly changed.**

Chart 22. Number of migrants living in the EU-15 and V4 countries in the middle of a given year (thousands)

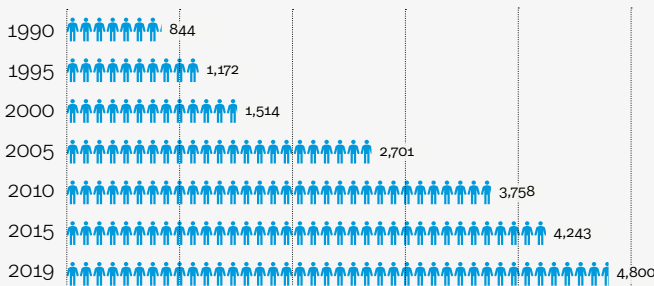


Source: prepared by PEI based on: United Nations Global Migration Database (2021).

While the population of migrants from the Czech Republic, Poland, Slovakia and Hungary living in the EU-15 increased almost six-fold over that period, the number of people from the “old EU” in the Visegrad countries grew by just a third. Significantly, we are describing data for two groups with a fundamentally different population potential: the V4’s 64 million or so inhabitants compared to the EU-15’s 410 million. This means that, in the case of the Visegrad countries, migration to countries in the “old EU” was one of the key trends and, as

a result, one of the foundations of the wider socio-economic transformation of the past thirty years. According to analysis by the International Monetary Fund, mainly young and well-educated people migrated, which had a negative impact on the labour market and the productivity of the economy in the countries they left behind. For people from the EU-15, moving to V4 cities on the Danube, Vltava or Vistula tended to be a manifestation of individual life situations, which did not affect these countries’ social macrostructure.

Chart 23. Number of migrants from the V4 countries living in the “old EU” countries in the middle of a given year (thousands)



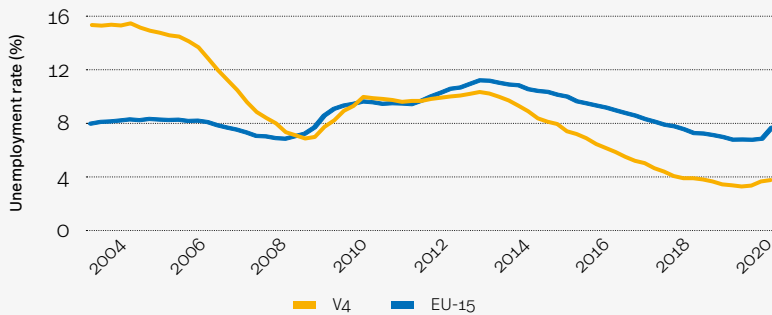
Source: prepared by PEI based on: United Nations Global Migration Database (2021).

The labour market

Another area in which there have been radical changes over the past thirty years is the labour market. In 2003-2004, the unemployment rate in the V4 countries was almost twice that

in the “old EU” countries (15.4%, compared to 8%). **Since the beginning of the financial crisis in 2008, the Visegrad Group countries have sharply reduced unemployment to less than 4%.**

▼ **Chart 24.** Quarterly unemployment rate in the EU-15 and V4 countries in 2003-2020 (%)



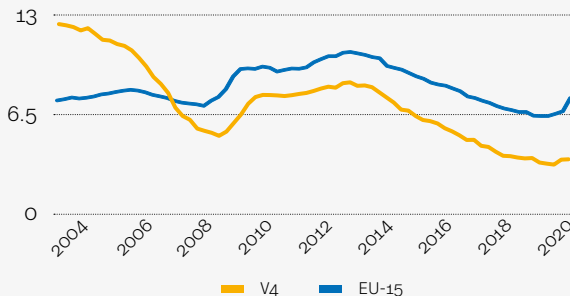
Source: prepared by PEI based on: Eurostat Database (2021).

The years of the financial crisis of 2008-2010 resulted in an increase in the number of unemployed people. During this period, the labour market in the V4 countries reacted more violently to the economic situation. In 2010, the unemployment rate exceeded the EU-15 average (approximately 10% to 9.6%). When the public and economic crisis broke out as a result of the

financial crisis, it had tougher consequences for rich countries' labour markets; this impact was greatest impact in 2012-2014. **After 2010, the labour market in the V4 countries became more resistant to the effects of crises than the “old EU” one.**

Since 2012, the unemployment rate in the V4 countries has remained consistently below that in the EU-15. During the pandemic, too, the

▼ **Chart 25.** Quarterly unemployment rate among people in the 15-24 age group in 2003-2020 in the EU-15 and the V4 (%)



Source: prepared by PEI based on: Eurostat Database (2021).



Unemployment rate of young people in the V4 countries was twice lower than in the EU-15

3.6%
As of 2020

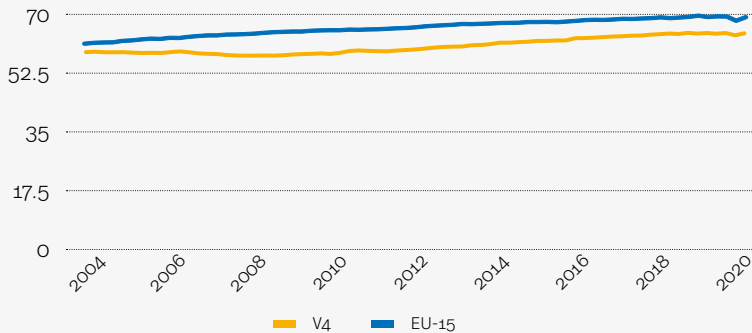
unemployment rate increased more in the EU-15 (from 6.8 to 7.7%). In the Visegrad Group, the unemployment rate in the third quarter of 2020 was only around 3.6%.

In the V4 countries, the situation of young people on the labour market is better than that of those in the “old EU” countries. The unemployment rate among people in the 18-24 age group has been lower than that in the EU-15 since 2007. During the pandemic, the situation of young people in the V4 countries did not deteriorate

as much as that of those in Western European countries.

However, the situation is different when it comes to professional activity among women. In 2003-2020, this indicator improved in both the V4 and the EU-15. Since the start of the period analysed, women in the “old EU” countries have been more professionally active. The dynamics of the changes over the years were similar, though, so the gap between the V4 and the EU-15 remains visible.

▾ **Chart 26. Professional activity among women in 2003-2020 in the EU-15 and the V4 (%)**



Source: prepared by PEI based on: Eurostat Database (2021).

Inequality

Although imperfect, the Gini index is an interesting measure of social inequality, which allows countries to be compared. **In 2010-2019, the situation in the V4 countries in terms of this indicator developed very heterogeneously.** During the whole period, two countries – Slovakia and the Czech Republic – recorded the lowest values among the countries analysed. At the same time, Poland and Hungary experienced different phenomena. Hungary, which was had the lowest Gini index in 2010, recorded the highest increase in the V4 and EU-15 groups (similar to Luxembourg). **In contrast, Poland experienced one of the largest drops in the index (alongside Slovakia and Ireland).** The

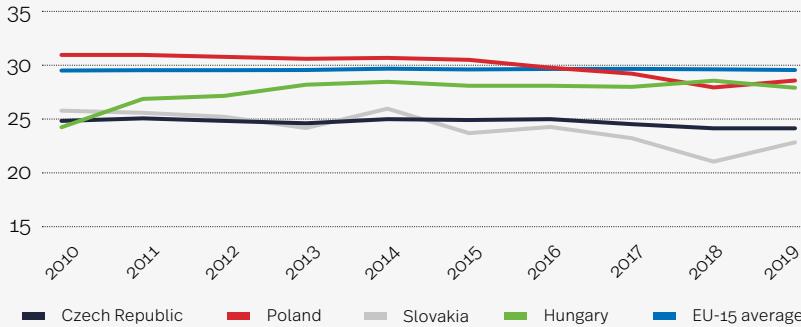
situation in the EU-15 was heterogeneous, too: in seven countries (including Greece, Portugal and Belgium) the index decreased. It increased in eight (by the most in Luxembourg, Sweden and the Netherlands).

It is worth remembering that inequality, measured in terms of the Gini index, in European countries is lower than in other parts of the world, such as the United States or countries in South America.

Another indicator of social cohesion that illustrates the progress made the V4 countries compared to the EU-15 in recent decades is the percentage of people at risk of poverty or social exclusion. The first year after they joined the EU,

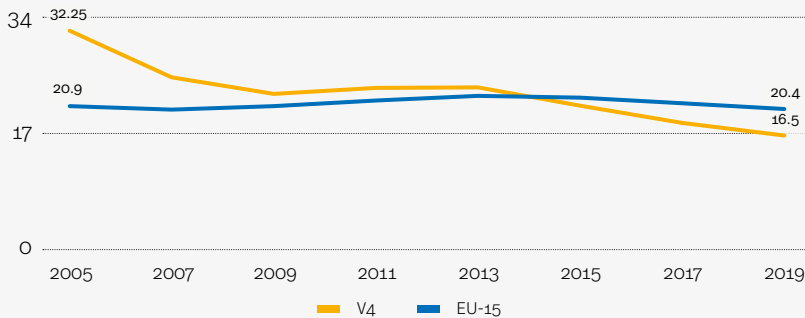
the average value of the index in the V4 countries was over 32%, compared to slightly less than 21% in the EU-15. In 2019, the average indicator had fallen to 16% in the Visegrad countries, while it remained at a similar level in the EU-15 countries (20.4%).

Chart 27. Changes in the Gini index in the EU-15 and V4 countries



Source: prepared by PEI based on: Eurostat Database (2021).

Chart 28. Change in the average value of the indicator of people at risk of poverty or social exclusion in the EU-15 and V4 countries unweighted average (%)



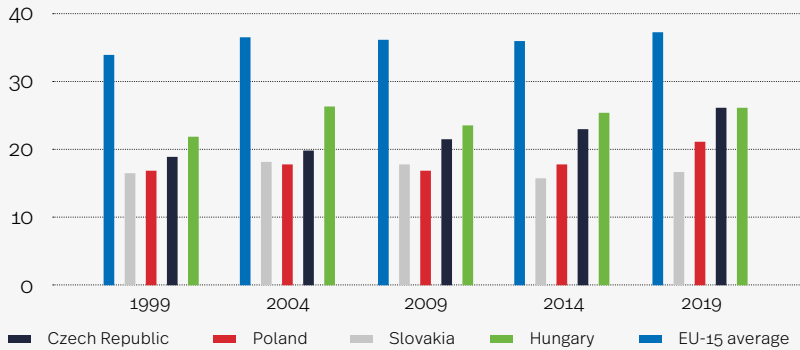
Source: prepared by PEI based on: Eurostat Database (2021).

Science and higher education

Over the past ten years, the percentage of people of working age with higher education in the Visegrad Group countries has increased significantly. In Hungary, it increased by 5.4 pp, in the Czech Republic by 7.1 pp, in Slovakia by 8 pp, and in Poland by almost 9 pp. Despite this – as well as many systemic reforms and the influx of

EU funds – science and higher education in the V4 remains at a lower level than in the EU-15. Only one in four publications prepared at universities in Hungary and the Czech Republic is published in journals in the top 10% in terms of citations. This is even lower in Poland (one in five) and Slovakia (16.2%).

Chart 29. Percentage of academic publications affiliated with universities in the V4 and EU-15 countries published in the top 10% of journals with the highest citation rate in a given year (%)



Source: prepared by PEI based on: SciVal Database (2021).

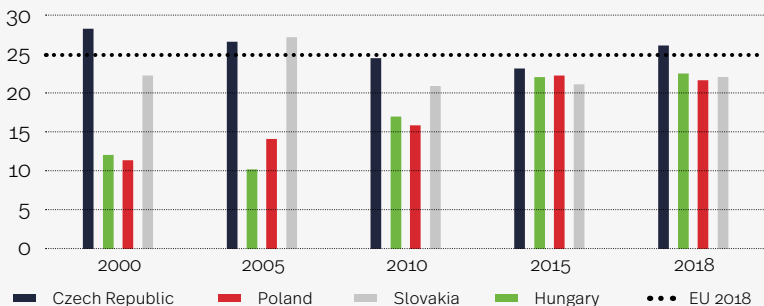
Meanwhile, in Greece – which performed the worst among the EU-15 countries in this respect – three out of ten academic publications make it into the best journals. Among the top countries, such as the Netherlands or Denmark (recently joined by Luxembourg), the share is 40%. **However, with the upward trend in the Czech Republic and the falling percentage in southern EU countries (Italy and Greece), it can be assumed that Czech academics will soon catch up with the EU-15.**

The V4 countries are also have by a growing percentage of STEM (science, technology, engineering and mathematics) graduates;

that is, people who are the backbone of the modern economy. In 2018, the percentage of graduates in these fields was above the EU average only in the Czech Republic, but there is an upward trend in the other three countries. **In Poland and Hungary, the percentage of STEM graduates has roughly doubled over the past two decades.**

The differences between the V4 countries have decreased significantly since 2000, when the difference between the Czech Republic and Poland was around 17 pp. Now, it is just 4.5 pp.

Chart 30. Percentage of STEM graduates in the V4 countries and in the EU in selected years (% of all graduates)



Source: prepared by the authors based on: World Bank (2021); OECD (2021); Eurostat Database (2021).

Climate protection

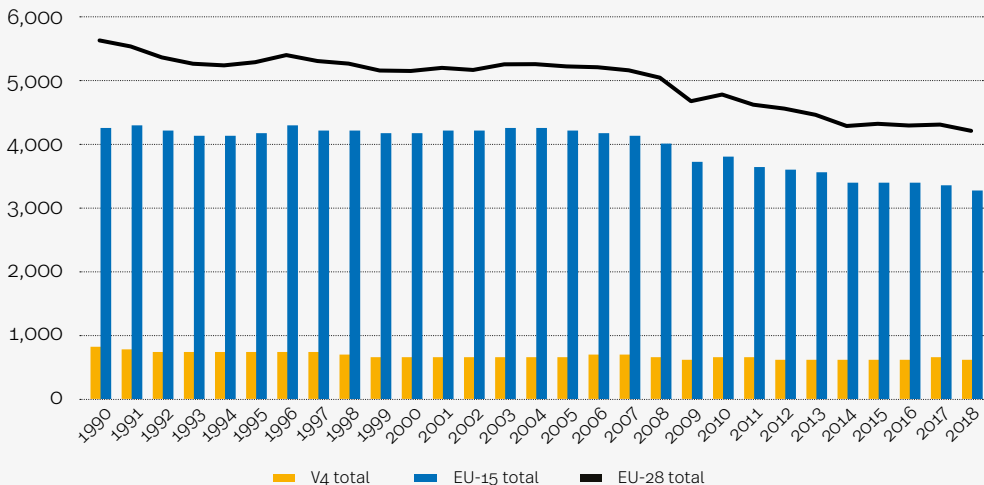
V4 EMISSIONS COMPARED TO THE EU-15

The volume of greenhouse gas emissions in both the EU-15 and V4 countries has decreased by around 23% in the past three decades. In the EU-15 countries, the marked decline in emissions did not begin until the financial and economic crisis in 2008, which contributed to an economic slowdown that lasted several years. However, ambitious climate policy was a major factor, especially successive reforms of the EU-ETS mechanism aimed at increasing the prices of emission allowances. Many of the EU-15 countries were in favour of ambitious climate targets based on the development of industries involving “green” technology.

The decline in emissions in the V4 countries was particularly high in the second half of the 1990s. However, this came at a high social cost.

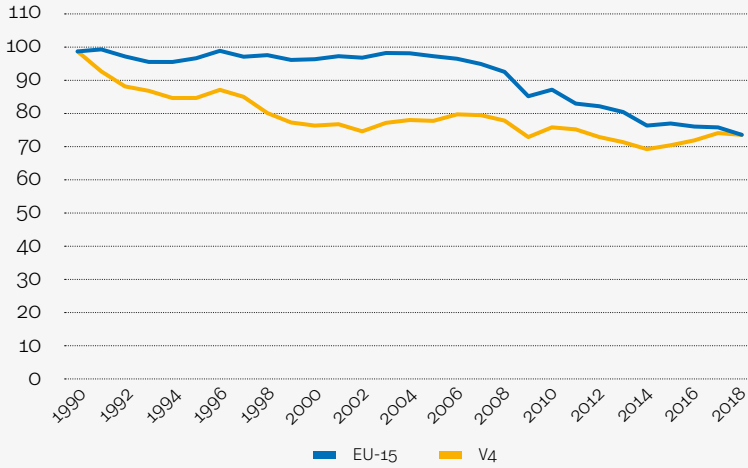
The rapid decline in emissions was influenced by the modernisation of the energy and industry sectors and their marketisation, which improved energy efficiency significantly. The changes in the structure of the economy were another important factor: the service sector started to grow and emission-intensive heavy industry became less important. The reduction of emissions in the V4 countries (and, more broadly, in countries in Central and Eastern Europe) did not result from a desire to protect the climate; rather, it was caused by the economic transformation, which was a socially-costly process. The rise in unemployment, including permanent unemployment (for example, as a result of closing mines), was particularly acute.

▼ Chart 31. Greenhouse gas emissions in 1990-2018 (million tonnes CO₂-eq)



Source: prepared by PEI based on EEA data.

Chart 32. Change in greenhouse gas emissions (CO₂-eq) in 1990-2018



While the decline in emissions in V4 took place mainly in the 90's, in EU-15 it happend

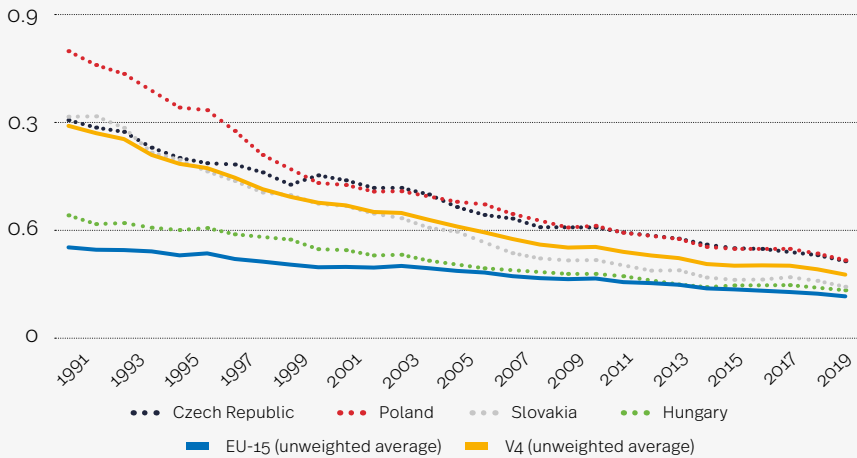
in 2nd decade of 21st century.

Source: prepared by PEI based on EEA data.

THE EMISSION INTENSITY OF ECONOMIES

The emission intensity in V4 has decreased faster than the EU-15 countries' ones over the past thirty years and is now more than three times lower than in 1991. Nevertheless, it is still 35% higher than the average intensity among EU-15 countries.

Chart 33. The economy's emissivity in 1991-2019 (kg CO₂ / 1 USD, 2015 prices)



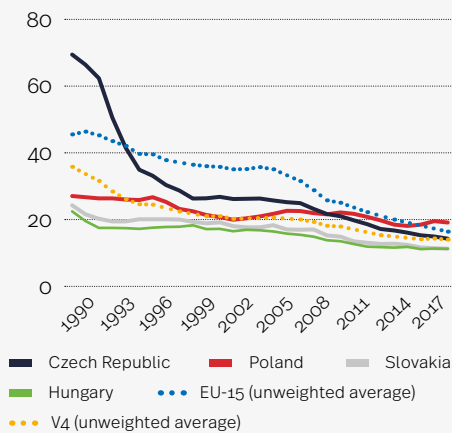
Source: prepared by PEI based on IEA data.

Environmental protection

In 1990–2018, the V4 and EU-15 countries saw a significant decrease in the emission of pollutants. For sulphur oxides, it decreased by 80% to over 90%; for nitrogen oxides, the decrease ranged from 30% to 80%. In 2018,

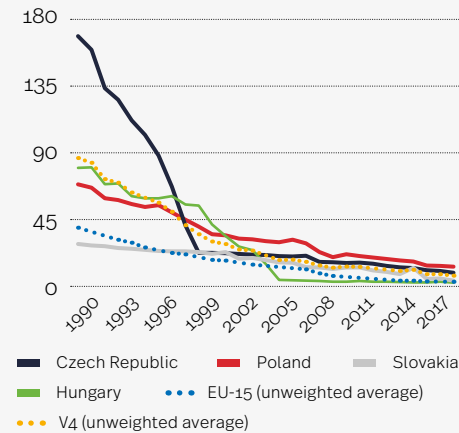
Poland had the highest emissions *per capita* of both types of pollutants, 13 kg and 20 kg respectively, compared to a V4 average of 7 kg and 15 kg, and an EU-15 average of 3 kg and 17 kg.

Chart 34. Emissions of nitrogen oxides in the V4 and EU-15 countries (kg per capita)



Source: prepared by PEI based on: Eurostat Database (2021).

Chart 35. Emissions of sulphur oxides in the V4 and EU-15 countries (kg per capita)

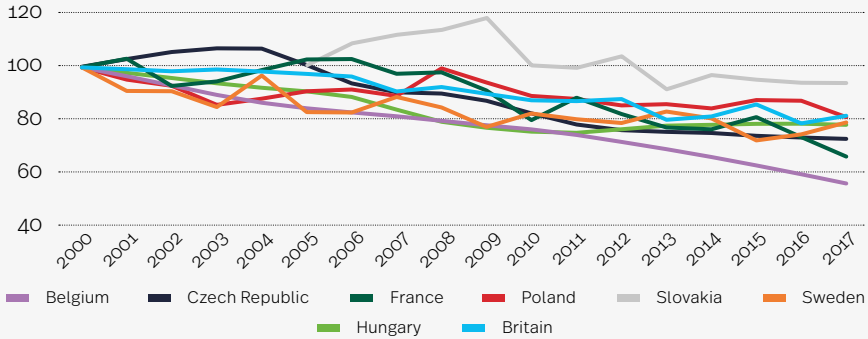


Source: prepared by PEI based on: Eurostat Database (2021).

The level of biodiversity in the EU is falling, although it is higher in the V4 countries than in the EU-15 countries. One of the main measures of biodiversity used in the EU is the Common Farmland Bird Index, which is treated as an indicator of the condition of agricultural ecosystems. Its base value for 2000 is 100 (the exception is Slovakia, for which the base

value is set for 2005). In both the EU-15 and the Visegrad Group countries, there has been a significant decrease in the index's value in recent years compared to 2000. The decline in numbers in Belgium, France and Sweden has been greater than in the V4 countries. Slovakia and Poland have the highest level of biodiversity in the region.

Chart 36. Common farmland bird index in V4 and selected EU-15 countries

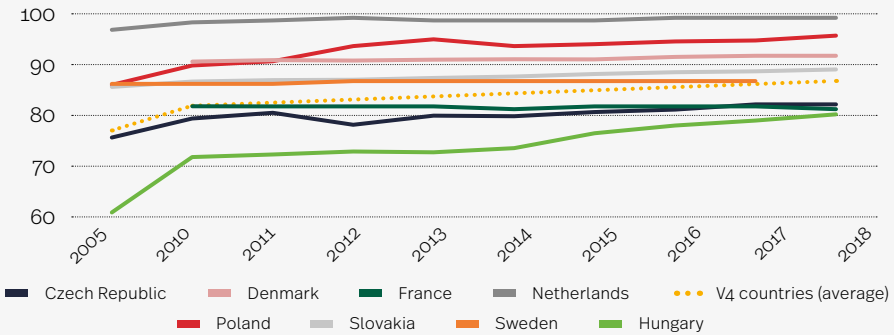


Source: prepared by PEI based on: Eurostat Database (2021).

In 2005-2018, the percentage of the V4 countries' inhabitants using connections to the municipal sewage disposal system increased from 77% to 87%. In 2005, the percentage was lowest in Hungary (61%) and the highest in Slovakia (85%) and Poland (86%). The increase

was largely due to the large number of new connections in Hungary, where the percentage increased by 19 pp. In Poland, 96% of the population was connected to the municipal sewage disposal system in 2018, more than in Denmark (92%), Sweden (87% in 2017) and France (81%).

Chart 37. Percentage of inhabitants connected to the municipal sewage disposal system in the V4 and selected EU-15 countries in 2005-2018 (%)



Source: prepared by PEI based on OECD data.

V4 – security integration

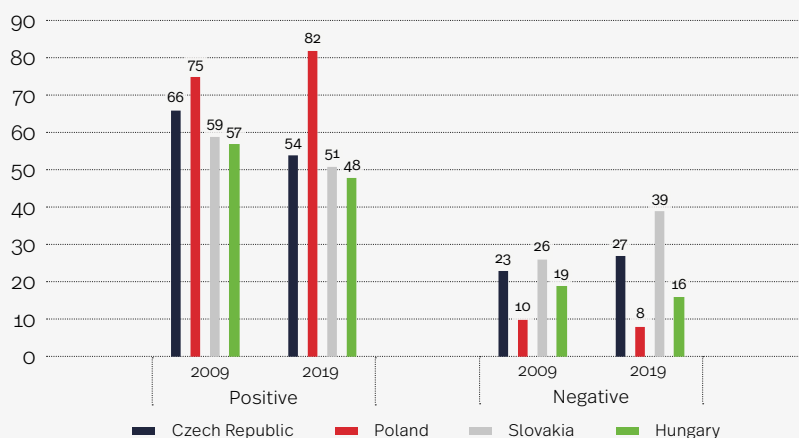
Security

The V4 is not a military organisation; it is a strictly political agreement. Nevertheless, security issues have united the four countries from the very beginning. The Group was established with the countries' integration with NATO as one of its goals. After the Czech Republic, Poland and Hungary joined NATO in 1999, followed by Slovakia in 2004, the V4 states were in favour of strengthening NATO. The group has been fairly consistent at identifying threats in the region, despite some discrepancies when it comes to ways to counter them; in particular, containing Russia. Although the Czech Republic, Slovakia and Hungary did not ask for NATO forces to be deployed on their territory, cooperation within

the V4 contributed to these countries' lack of opposition to increasing the presence of NATO forces on the Alliance's eastern flank, as well as to the deployment of troops from the region to the Baltic States on a rotational basis.

A positive attitude to NATO clearly dominates among people in all the V4 countries (PEW, 2019). However, the PEW Research Center's findings point to a tendency of declining support for the Alliance: in recent years, it has decreased in the Czech Republic, Hungary and Slovakia. The main challenge is the increase in the percentage of respondents in Slovakia with a negative attitude towards NATO (by 12 pp in 2009-2019). **Poles have the most positive attitude towards NATO (82% in 2019).**

▼ Chart 38. Percentage of people with a positive and negative attitude to NATO (%)



Source: prepared by PEI based on: PEW (2019).

Since the V4 was established, each of the capitals' priority has been to develop cooperation with Western structures (EU and NATO). As a result, the countries avoided deep integration within other organisations and their security cooperation was long limited to the political level. Practical initiatives that should be mentioned include the establishment of a Polish-Czech-Slovak brigade, which was meant to support Slovak accession to NATO. However, it only operated in 2002-2005. **Another example**

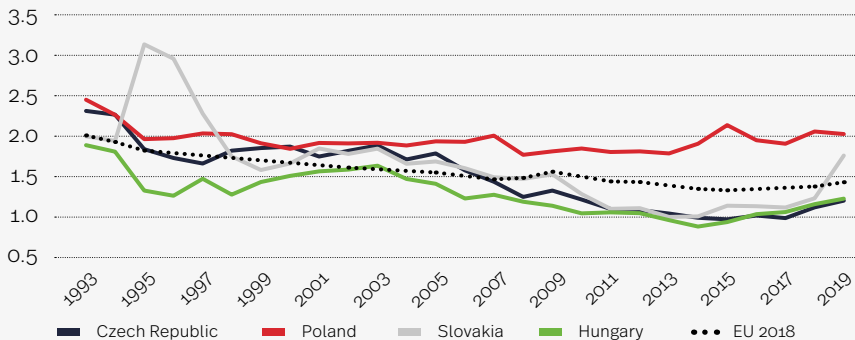
of the deepening of security cooperation was the establishment of the Visegrad Combat Group in 2014. In addition to Poland, the Czech Republic, Slovakia and Hungary, Ukraine was invited to form it, as was Croatia in 2019 (Lorenz, 2013). Twice, in 2016 and 2019, the Combat Group served as a EU Battlegroup. Its next combat duty is scheduled for 2023. This cooperation within the V4 and the EU could increase the standard of weapons, training and the ability to conduct missions within the NATO framework, too.



The issue of allies meeting the defence spending target of 2% of their GDP in 2024 is constantly discussed in the NATO forum. The V4 countries reduced funding for this target significantly after the financial crisis of 2008. **As a result, in 2019, Poland was the only V4 country to meet the 2% target.** However, Russian aggression against Ukraine in 2014 led to the

other V4 countries gradually increasing defence spending, too. This created an opportunity for the V4 countries to use the time when NATO and the US were significantly involved in strengthening their military presence in the region to modernise their armed forces and improve their integration with the Alliance's structures.

Chart 39. Defence spending in the EU and V4 countries in 1993-2019 (% of GDP)



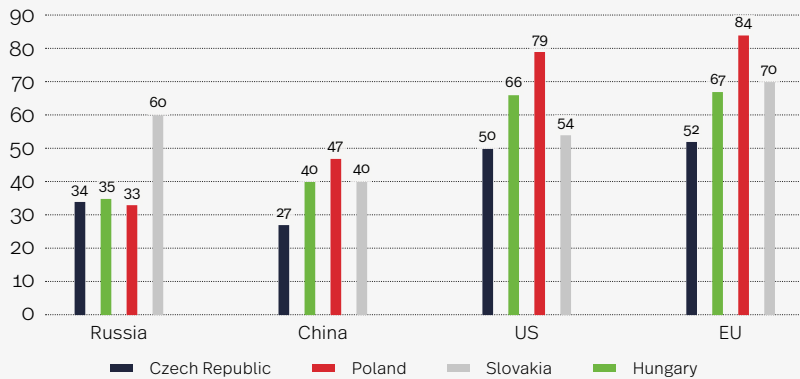
Source: prepared by PEI based on: World Bank (2021).

The V4 countries' security policy is defined by their attitude towards Euro-Atlantic integration and their societies are characterised by support for European integration and a pro-American attitude, which are relatively high compared to other countries in the EU. In recent years, the V4 countries' governments have taken a similar stance on EU migration policy. The countries were in favour of sealing the EU's external borders and questioned the refugee relocation mechanism.

However, there is clear divergence on some foreign policy issues. The difference in opinion on policy towards Russia is especially visible, especially since the country's annexation of Crimea. Warsaw has the most principled stance on the Kremlin's aggressive policy.

The other capitals' positions have evolved, but have been more cautious than Poland's; the governments wanted to limit the possible economic losses of breaking off cooperation with Russia (Groszkowski, Gniazdoowski, Sadecki, 2014). However, attitudes towards Russia in Czech, Hungarian and Polish society are quite consistent: only about one-third of respondents have a positive attitude. Slovakia stands out: in 2019, almost twice as many respondents there expressed this opinion (60%). Another important factor defining European security policy is the rise of China. The Czechs have the least positive opinion about China (27%); in the other V4 countries, it does not exceed 47%, either (PEW, 2019).

➤ **Chart 40.** Respondents in the V4 countries with a positive attitude to Russia, China, the US and the EU in 2019 (%)

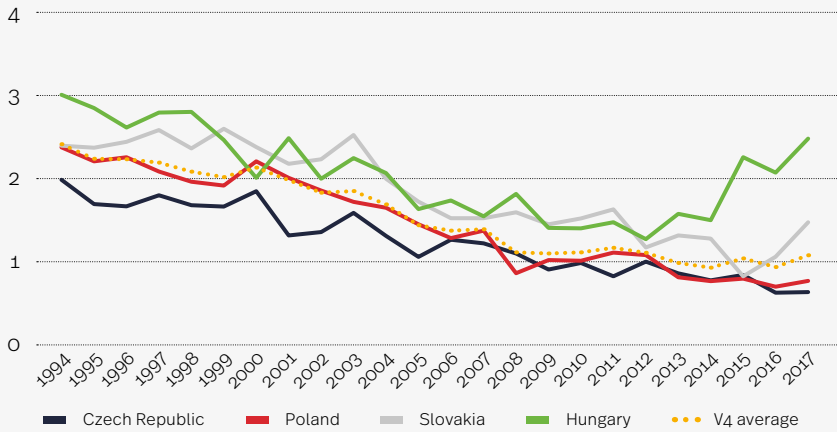


Source: prepared by PEI based on: PEW (2019).

When it comes to internal security, homicide rates have fallen over the past thirty years. In the Czech Republic, this improvement has been especially impressive: it is among the countries

with the lowest number of intentional homicides per 100,000 residents. However, the increase in this indicator in Hungary in recent years is worrying.

Chart 41. Homicides in the V4 countries in 1994-2017 (per 100,000 inhabitants)



Source: prepared by PEI based on: World Bank (2021).

Energy security

The V4 countries are among the countries with the highest indicator of energy security, according to the World Energy Council (WEC). Among the V4 countries, The Czech Republic leads in the energy security ranking, one of the three main indicators in the Energy Trilemma Index; it ranks 8th out of the 108 countries surveyed. Hungary (10th) and Slovakia (13th) follow shortly afterwards, while Poland (37th) is further behind. Since 2000, all four countries have strengthened their energy security: Slovakia by 17 pp., Hungary by 14 pp., and the Czech Republic and Poland by 12 pp. Increasing their energy storage capacity and the diversification of their energy mix was key. In addition, dependence on energy imports decreased in Slovakia and Hungary.

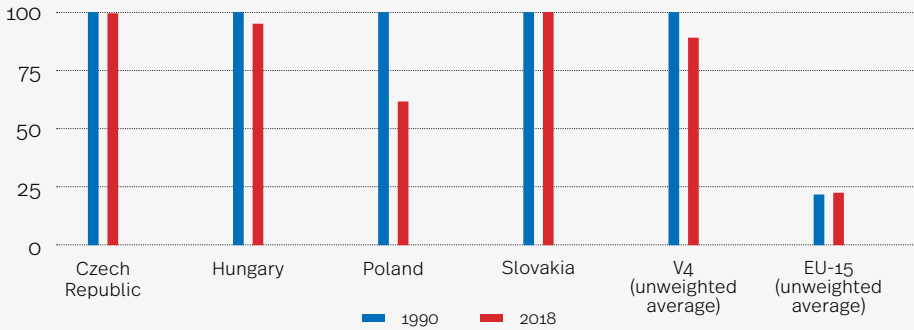
An important factor when it comes to energy security is the electricity market concen-

tration, which has decreased in the V4 countries.

In 1999-2018, Slovakia recorded the largest decrease, from 84% to 70%, but it remains the most concentrated market in the V4. The Czech Republic recorded a slightly smaller decline, from 71% to 63%. In Poland, the decline was the smallest, from 21% to 17%; it remains the most deconcentrated country. The exception was Hungary, where the largest producer's market share increased from 39% to 55%. Apart from Poland, the V4 countries are below the EU-15 average of 39%.

In 1990-2018, Poland was the only V4 country to reduce Russia's share in total gas imports significantly. It decreased from 100% in 1990 to 61% in 2018. Dependence on Russian gas remains significantly higher in the V4 than in the EU-15, where it remains at a similar level to that in 1990, slightly above 22%.

Chart 42. Share of gas imports from Russia in total gas imports in 1990 and 2018 (%)

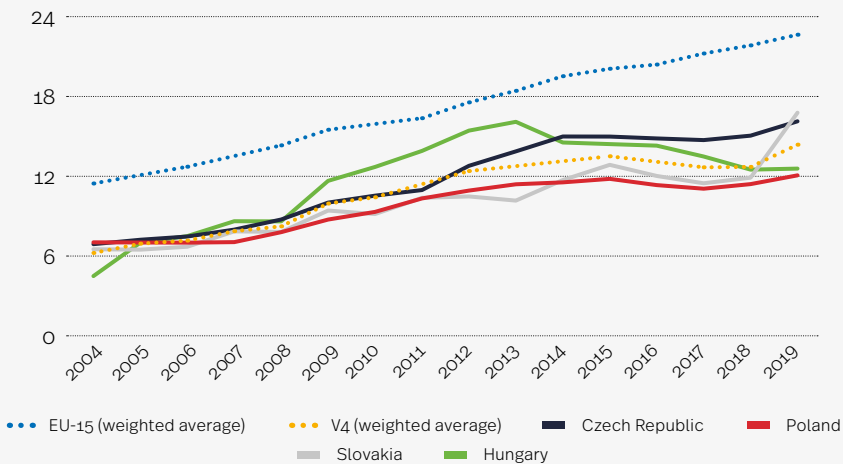


Source: prepared by PEI based on: Eurostat Database (2021).

An important factor strengthening energy security has been the increase in the share of renewable energy sources (RES) in the energy mix. Their share in gross final energy consumption has grown by 56% in the V4 countries since 2004, compared to 51% in the EU-15.

The average share of RES in the V4 countries remains lower than in the EU-15 countries, by 8 pp. Among the V4 countries, the highest share in final gross energy consumption is in Slovakia and the Czech Republic, above 16%. It is the lowest in Poland (12%).

Chart 43. Share of RES in final gross energy consumption in 2004-2019 (%)



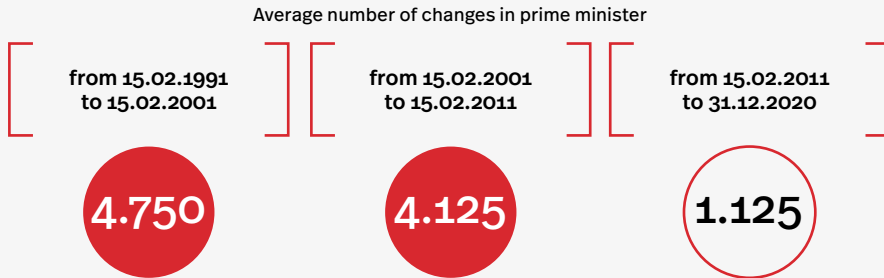
Source: prepared by PEI based on: Eurostat Database (2021).

Political stability

For countries in Central Europe, the past 30 years have been a period of systemic transformation and a gradual increase in government stability. In the 1990s, there were frequent changes in government, especially in Poland

and Slovakia. However, the average number of changes in prime ministers' offices in the V4 countries has been decreasing with each decade, which can be seen as a symptom of solidifying party systems and greater political stability.

Average number of changes in prime minister in the V4 countries (1991-2020)



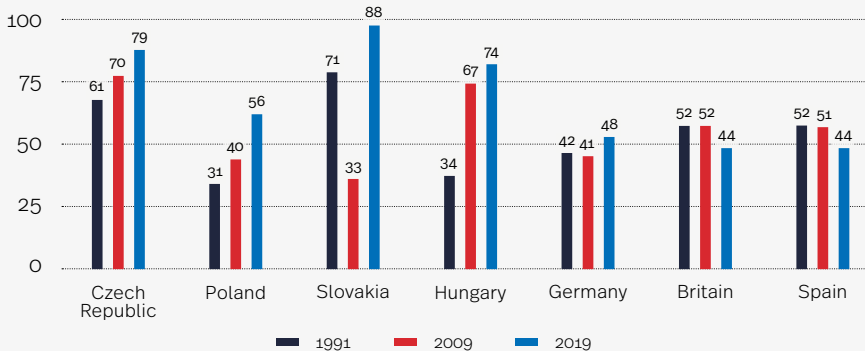
Note: The data up to 1992 is for Czechoslovakia, divided into the Czech and Slovak Federal Republic.

Source: prepared by PEI.

In all the V4 countries, citizens' trust in the state has increased over the past thirty years (PEW, 2019). This indicator is highest in Slovakia (in 2019, 88% of citizens agreed with the statement that the state acts on their behalf).

The highest increase in 1991-2019 was recorded in Hungary (by 40 pp.). Trust in the state in the V4 countries is much higher than in many Western democracies, such as Germany, Britain and Spain.

Chart 44. Percentage of respondents in selected countries who agree with the statement that the state acts for citizens' benefit (in 1991, 2009 and 2019)



Source: prepared by PEI based on: PEW (2019).

V4 – political integration

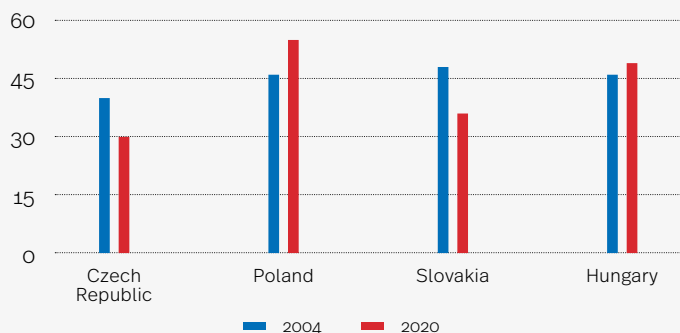
Attitude to the EU

Joining the EU in 2004, the V4 countries' citizens had a positive attitude. The most positive attitude towards the EU in 2004 was recorded in Slovakia (48%), as well as in Poland and Hungary (46% each). At the time, the percentages for these three countries were slightly above the EU-15 average, which was 44%.

Over the years, perceptions of the EU have deteriorated in both the V4 and the EU-15. By

2020, the average indicator for positive opinions had decreased to 40% in the EU-27 and EU-15. In Slovakia and the Czech Republic, opinions about the EU turned out to be worse than average: 36% and 30% respectively. In Poland and Hungary, the percentage of positive opinions increased, to 55% (the second-highest percentage in the EU, after Ireland) and 49% respectively.

Chart 45. Percentage of respondents in the V4 countries with a positive attitude to the EU in 2004 and 2020



Source: prepared by PEI based on: European Commission (2004; 2020b).

Areas of cooperation

The V4 countries coordinate their positions on some EU issues with each other, especially ahead of important EU summits. After 2004, this became the main goal of the V4's existence, along with initiatives in the field of military and security policy also undertaken outside the EU. The most important areas of cooperation in terms of consistent positions are issues related to the functioning of the EU, like institutional reforms and staffing, as well as EU budgets, internal market reforms and migration policy.

Cooperation in these is confirmed by analysis of the composition of the European Parliament's committees and the number of MEPs from the V4 countries. Almost one in four MEPs from this region is on the Committee on Foreign Affairs (AFET), one in five on the Committee on Industry, Research and Energy (ITRE), the Committee on the Environment, Public Health and Food Safety (ENVI) and the Committee on Civil Liberties, Justice and Home Affairs (LIBE). In most cases, this reflects the size of the individual committees.

Assuming that V4 MEPs' typical participation rate in committee should correspond to

their share in the total number of MEPs, they should make up 15% of the committees' members on average. Based on this assumption, the following committees have the **greatest overrepresentation of MEPs from the region**, compared to the percentage of them in Parliament overall: the **Committee on Budgetary Control** (CONT; the share of V4 MEPs there is 22%), the **Committee on Internal Market and Consumer Protection** (IMCO; 21%) and the Committee on Foreign Affairs and its Subcommittee on Security and Defence (SEDE) (18% each). In contrast, the Visegrad region's voice is weakest in the fisheries (PECH), petitions (PETI) and legal affairs (JURI) committees.

This seems to reflect the topics where it is easiest for the V4 countries to reach a coherent position – budgetary issues, in particular cohesion policy, as well as the openness of the single market, foreign affairs and security policy. Industry and environmental protection are also at the centre of the Visegrad Group's interests, although MEPs from the region are not overrepresented in the corresponding committees.

➤ **Table 1.** Share of MEPs from V4 countries in European Parliament committees (%)

Name of committee	Number of MEPs from V4	Share of MEPs from V4 in committee (%)	Difference between the share of V4 MEPs in a given committee from the share of V4 MEPs in EP (pp.)
AFET	25	18	2
ITRE	23	15	0
ENVI	22	14	-1
LIBE	21	16	0
IMCO	19	21	6
EMPL	16	15	0
ECON	13	11	-4
CONT	12	22	6
REGI	12	14	-1
SEDE	11	18	3
BUDG	11	14	-1
INTA	11	13	-2
AGRI	11	12	-4
TRAN	11	11	-4
FISC	10	17	2
CULT	10	17	1
AIDA	10	15	0
DROI	9	16	1
FEMM	9	14	-1
BECA	9	14	-1
INGE	9	14	-2
AFCO	8	14	-1
DEVE	7	14	-2
ANIT	6	10	-5
JURI	5	10	-5
PECH	4	7	-8
PETI	4	6	-9

Source: prepared by PEI based on: European Parliament (2020).

International Visegrad Fund

The only truly permanent V4 institution is the International Visegrad Fund (IVF) based in Bratislava. Its aim is to promote cooperation among experts and in science, culture and art, among others.

The fund's operation in 2000-2019 is best summed up by the data on its achievements:



EUR 95 million in allocated funds



5,848 completed projects



2,215 scholarships awarded



601 participating cities

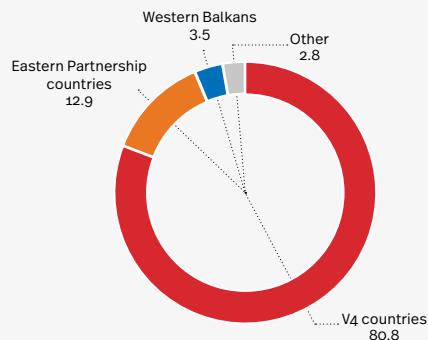


520 artistic residencies awarded



Citizens of 38 countries participated in projects funded by the IVF

Chart 46. Distribution of funds allocated by the IVF by region (%)



Source: prepared by PEI based on: International Visegrad Fund (2020).

One of the four countries' joint initiatives is cooperation between experts as part of the "Think Visegrad" think tank platform coordinated by ministries of foreign affairs. Over **100** analyses written by *think tanks* in countries in the region have been written as part of the platform.

References

- Council of the European Union (2020), *Unia Europejska. Fakty i liczby*, The Publications Office of the European Union, Brussels.
- European Commission (2004), *Standard Eurobarometer 62. Autumn 2004*,
<https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/STANDARD/yearFrom/1974/yearTo/2004/surveyKy/455> [accessed: 15.01.2021].
- European Commission (2020a), *EU expenditure and revenue 2014-2020*,
https://ec.europa.eu/budget/graphs/revenue_expenditure.html [accessed: 15.01.2021].
- European Commission (2020b), *Standard Eurobarometer 93. Summer 2020*,
<https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/STANDARD/yearFrom/1974/yearTo/2020/surveyKy/2262> [accessed: 15.01.2021].
- European Parliament (2020), <https://www.europarl.europa.eu/committees/en/home>
 [accessed: 15.12.2020]
- Groszkowski, J., Gniazdowski, M., Sadecki, A. (2014), *Wyszehradzka kakofonia wobec konfliktu rosyjsko-ukraińskiego*, OSW, Warsaw.
- International Visegrad Fund (2020), https://s3.eu-central-1.amazonaws.com/uploads.mangoweb.org/shared-prod/visegradfund.org/uploads/2020/06/IVF_brochure_online_2020.pdf
 [accessed: 15.01.2021].
- Lorenz, W. (2013), *Grupa bojowa UE – szansa na przełom we współpracy Grupy Wyszehradzkiej?*, Biuletyn PISM, Warsaw.
- OECD (2018), *OECD Review of National Research and Development Tax Incentives and Estimates of Research and Development Tax Subsidy Rates*, Paris.
- Stehrer, R., Stöllinger, R. (2015), *The Central European Manufacturing Core: What is Driving Regional Production Sharing?*, "FIW Research Reports Series", No. VI-002.
- Święcicki, I. (2019), *Polskie B+R. Dostępne narzędzia wsparcia i nowe możliwości*, Polish Economic Institute, Warsaw.
- UNCTAD (2021), <https://unctad.org/topic/investment/world-investment-report>
 [accessed: 15.01.2021].
- Warda, J. (2002), *Measuring the Value of R&D Tax Treatment in OECD Countries*, "Science, Technology Industry Review", Vol. 27.

DATABASE

- Eurostat Database (2021), <https://ec.europa.eu/eurostat/data/database> [accessed: 15.01.2021].
- Eurostat-Comext (2021), Baza danych handlowych, <http://epp.eurostat.ec.europa.eu/newxtweb/>
 [accessed: 22.01.2021].
- OECD-TiVA (2018), Trade in Value Added Database, <https://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm> [accessed: 4.01.2021].
- PEW (2019), PEW Spring 2019 Survey Data, <https://www.pewresearch.org/global/dataset/spring-2019-survey-data/> [accessed: 4.01.2021].

- PEW Pew Research Centre, European Public Opinion Three Decades After the Fall of Communism (2019), <https://www.pewresearch.org/global/wp-content/uploads/sites/2/2019/10/Pew-Research-Center-Value-of-Europe-report-FINAL-UPDATED.pdf> [accessed: 4.01.2021].
- SciVal Database (2021), <https://www.scival.com/landing> [accessed: 12.01.2021].
- UNCTADStats (2021), <https://unctadstat.unctad.org/EN/> [accessed: 12.01.2021].
- United Nations Global Migration Database (2021), https://population.un.org/unmigration/Logon_sql.aspx [accessed: 12.01.2021].
- WIIW (2021), <https://data.wiiw.ac.at/fdi-database.html> [accessed: 15.01.2021].
- WIOD (2016), World Input-Output Database Release, <http://wiod.org/home> [accessed: 4.01.2021].
- WITS-Comtrade (2021), World Integrated Trade Solutions, <https://wits.worldbank.org/> [accessed: 10.01.2021].
- World Bank (2021), <https://databank.worldbank.org/> [accessed: 11.01.2021].



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