POLAND IN THE EUROPEAN UNION

Report 2021

EDITED BY ADAM A. AMBROZIAK

SGH Publishing House

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INTRODUCTION

Poland has been a Member of the European Union since May 1st, 2004. Many in-depth analyses and research studies on Poland's road to the EU have been published to date, as well as works on economic and social consequences of the EU accession and membership. A year ago, we celebrated the seventieth jubilee of Professor Elżbieta Kawecka-Wyrzykowska, one of the outstanding researchers of Poland's integration into the European Union. Many other prominent researchers, who conducted studies on Poland's association, adjustment/harmonisation and finally the accession to the EU prepared their contributions to the book dedicated to Prof. E. Kawecka-Wyrzykowska entitled *Polska w Unii Europejskiej. Od stowarzyszenia do piętnastolecia członkostwa* [*Poland in the European Union. From association to fifteen years of membership*] published by the SGH Publishing House in 2020.

Having read the book as probably one of its first readers, I have realised how very much limited is the body of comprehensive and systematic work on Poland's membership in the European Union. The book dedicated to Prof. E. Kawecka-Wyrzykowska is surely an unsurpassed benchmark and a guideline for further research. Taking the aforementioned into account, we launched a project that would investigate into the performance of Poland in the European Union. We know that discussing all aspects of Poland's membership in the EU is next to impossible, however, we will make every effort to present outcomes of our recent research in that field. Our intention is to continue publishing such reports every year. Taking the book of 2020 dedicated to Prof. E. Kawecka-Wyrzykowska, as a "zero report", we are pleased to present the first monograph worked out by researchers of the Department of European Integration and Legal Studies *Poland in the European Union. Report 2021*.

In the first edition of our report, selected phenomena and activities relating to Poland's position in the EU are analysed: those reflecting long-term trends and those that have short-term or *ad hoc* character. Contributions elaborate on legal and economic issues. As Poland's integration with the EU started with trade liberalisation put in place based on the Europe Agreement, our Report begins with a chapter on *Trade in goods between Poland and other EU Member States* by Magdalena Suska which discusses the position of Poland in intra-EU trade in goods. To assess it, changes in the dynamics of Polish exports and intra-EU imports for the period 2004–2018 were analysed and compared to selected EU

Member States. In addition, changes in Poland's comparative advantages in the EU market were examined. The study carried out in these areas showed that Poland's specialisation in intra-EU trade has not changed much since accession and continues to cover mostly trade in agri-food and minimally processed products.

However, the analysis of Eurostat data on foreign trade in Chapter 1 requires some additional comments.[1] It is worth noting that country's position and results of foreign trade vary, depending on the method of trade (especially intra EU imports) presentation. Data for imports based on the country of origin appear to be more reliable to evaluate benefits of intra EU trade (balance of trade in goods included), while statistics based on the country of consignment allow presenting the position/rank in international trade. The differences in the value of imports and in the balance of Poland's trade turnover within intra-EU trade, according to both methodologies (country of origin and country of consignment) are presented in Table 1 in the Annex (at the end of the book).

The chapter on *Poland towards a new approach to state aid policy in the EU* by Adam A. Ambroziak discusses the instrument that governments use to artificially improve the competitiveness of national companies: state aid. The EU state aid policy assumes that directions and scope of public interventions should be similar among the EU Member States. At the same time, it is obvious, that this policy should take account of national financial constraints, starting points and national/government preferences. Therefore, the primary goal of the chapter is to evaluate Poland's performance in the EU in terms of state aid granted to entrepreneurs after the EU accession. To this end, two indices were newly developed and introduced: Relative State Aid Intensity Index and State Aid Similarity Index. The research allows formulating two observations: first, state aid in Poland has been subordinated to the EU Multiannual Financial Programmes in terms of available/offered financial resources, and second, the structure of state aid offered in Poland has not matched the structure of public financial assistance observed in most other EU Member States.

The next field of the study is dedicated to the *Effect of COVID-19 crisis on migration: the Polish case* by Michał Schwabe. It has been proven that during economic downturns many potential migrants tend to postpone their decisions, which often leads to decreases in migration flows. The consequences of COVID-19 for labour migration seem to differ from any other crisis of economic origin. This difference stems from the different nature and consequences of COVID-19 crisis. International mobility has been significantly reduced since the outbreak of the COVID-19 pandemic and it is expected that the consequences of the crisis for Poland's internal as well as international migration flows will be borne in the long run. This standstill in human mobility caused by the pandemic has been unprecedented and was not the case during any of the previous crises.

1 Author expresses special gratitude for support in this respect to Łukasz Ambroziak, PhD.

An important topic of Poland's position in the EU has been budgetary aspects, studied in the chapter on *Changes in the ways of financing the EU budget after 2021: implications for Poland* by Elżbieta Kawecka-Wyrzykowska. Since 2021 several changes in the EU financing system have taken place. They result mainly from the adoption of a new multi-annual budget for the years 2021–2027 and related modification of resources financing this budget, as well as from the agreement of EU Members on the New Generation EU (NGEU) instrument aimed at combating the effects of the recession, following the COVID-19 pandemic. The aim of the paper is to assess possible consequences of these developments for the amount and structure of Polish contributions to the EU budget in 2021–2027. The chapter on the NGEU addresses how this huge recovery programme will be financed and how these new ways of financing will impact Poland's contributions to the EU budget. The general conclusion is that since 2021 the net cost of financing the EU budget by Poland has increased slightly as a result of the extension of the list of own resources of the EU budget (with a plastic levy). NGEU implications for financing the EU budget by Poland and other EU Members will appear mostly after 2027 when the repayment starts and more money is needed.

The legal analysis starts with the chapter on *Poland's implementation of EU values* by Jerzy Menkes. The subject of the study is internal threats to the functioning/existence of the EU and NATO. These threats are a consequence of the undermining of "common values", which are the axiological foundation of the institutionalized cooperation of the western hemisphere. The study focuses on the case of Poland; a "new" member of the EU and NATO. The result of combining the case study with a comparative analysis is a sharper basis for evaluation. By becoming a member of the EU (and NATO), Poland acknowledged and accepted the treaties and the acquis – it, therefore, accepted the legal conditions of membership. However, the dispute over "values" has been reopened and is vital.

One of the most important elements of NATO cooperation is the defence spending of its member states. The chapter, *The financial dimension of Poland's participation in the European defence architecture – a comparative analysis*, by Magdalena Suska, discusses Poland's defence expenditure in comparison with other EU and NATO member states. A detailed analysis of the main categories of expenditures was made, e.g., on defence equipment, personnel, infrastructure. In addition, factors affecting the different implementation of the defence budget in individual member states were discussed. As demonstrated by the research, by looking at "collective defence" activities, we may conclude that Poland is a reliable and loyal ally to NATO.

The last chapter by Łukasz Dawid Dąbrowski focuses on *Poland in the European Defence Agency*. The European Defence Agency was established in order to achieve coherence of the EU activities in both the Common Security and Defence Policy and the Common Foreign and Security Policy. The analysis carried out for this chapter allows us to conclude that Poland's involvement in the works of the European Defence Agency leads to the harmonisation of standards observed by the Polish Armed Forces with those of EU-NATO through, e.g. the transformation, technical modernisation and already accomplished structural investment in the army, which favour its professionalisation. Moreover, Poland, as a European Union Member State, has gained the possibility to directly impact the shape of policies in this field and their implementation.

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TRADE IN GOODS BETWEEN POLAND AND OTHER EU MEMBER STATES

Abstract

The aim of the study is to show the role of Poland in the intra-EU trade in goods. The study analyses the dynamics of Polish intra-EU exports and imports since its accession to the EU and compared to the trade dynamics of other EU countries. Also, main trading partners have been identified. Additionally, Poland's comparative advantage in intra-EU trade in particular groups of commodities has been assessed by means of calculation of the RSCA and Lafay index. The dependence of the Polish economy on trade in goods with the EU has been assessed by calculating Poland's trade openness rate and comparing it with other EU Member States. Research methods applied in the study include the comparative analysis of available data and the analysis involving selected statistical tools. A number of indicators referring to international trade are also calculated. The study is mainly based on data on the EU trade publicly available in the Eurostat database.

Keywords: Poland, intra-EU trade in goods, comparative advantage, trade openness
JEL Classification: F15; F16; F18

Introduction

The process of Poland's integration into Western institutions was initiated by liberalisation and gradual removal of trade barriers. One of the aspects of the European integration is the focus on the introduction of the following freedoms in the individual countries: free trade of goods and services and free migration of people and capital. Poland's accession to the EU also began with the liberalisation of trade.

The Europe Agreement[1] between Poland and the EU, the basic pre-accession legal instrument, removed border obstacles to trade in industrial goods (mostly tariffs). It also

1 Poland concluded the Association Agreement – the so-called Europe Agreement with the European Communities on 16 December 1991. Its commercial part entered into force on 1 March 1992. Its aim was to establish

provided for several legal adjustments to the EU rules of the internal market. Upon accession to the EU in 2004, Poland implemented all four freedoms of the internal market – free movement of goods, services, capital and people. Free trade included not only industrial goods, but also trade in agricultural goods. Consequently, Poland was impelled to remove not only all border barriers to trade, but also many indirect barriers, including technical and sanitary obstacles, conformed to harmonisation of indirect taxation, and implemented the European law regarding competition and public procurement.

The Europe Agreement and then the membership in the EU have exerted a substantial impact on all sectors of Polish economy and the society (amongst other they have changed public policy, the business environment of companies and the position of consumers). The integration process opened a new market without internal borders – much vaster than Poland – to Polish exporters of goods. Simultaneously, the Polish market has been completely opened to the EU suppliers.

The main aim of the study is to show the role of Poland's intra-EU trade in goods since its accession to the EU.[2] In the study, Poland's trade performance against other EU Member States has been compared, Poland's main trading partners analysed as well as the main products traded in which trade Poland has the comparative advantage were identified. Also, the openness of the Polish economy to trade and its dependence on foreign trade exchange have been assessed. The determined aim of the study has been realised with the application of the comparative analysis of available data and the analysis involving the variety of statistical methods. The thesis of study is that Poland is an increasingly important element of the intra-EU trade in goods, constantly improving its position.

The study presents changes occurring during the 2004–2019 period and more detailed (additional) information for the situation prevailing in 2019.

1. Poland's intra-EU vs. extra-EU trade in goods

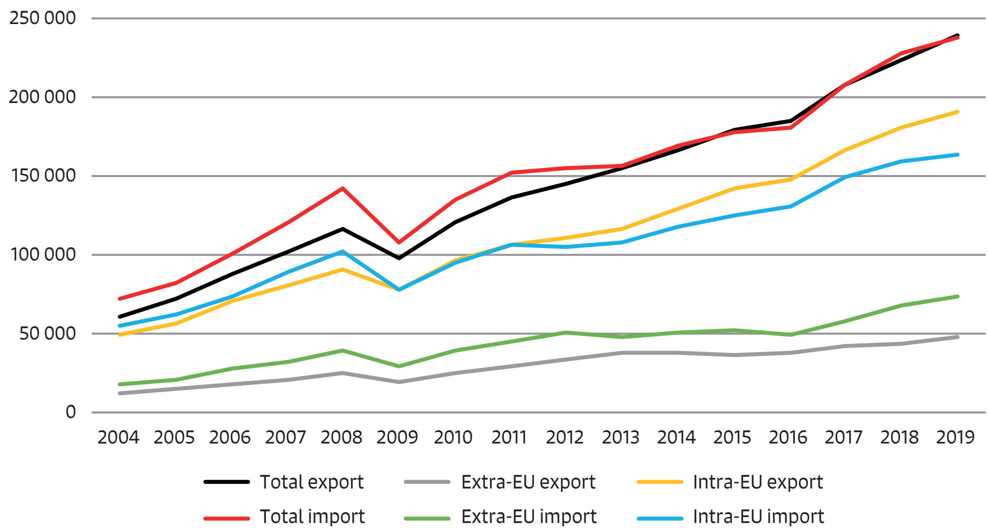
The benefits acquired from the European economic integration have been considerable for all EU Member States. The Customs Union and the EU Internal Market created the largest trade block in the world economy. Membership in the EU has also provided substantial benefits to the Polish economy – Poland has conferred an advantage from

a free trade area between Poland and the EU within 10 years. Eventually, the free trade area was established from 1 January 2002, but only regarding industrial goods. In relation to agricultural goods, the liberalisation of trade was very limited then. Several studies have been made, already after the conclusion of this agreement, analysing the scope of trade changes driven by Poland's integration with the EU, e.g., Kawecka-Wyrzykowska [1997, 2014]; Maliszewska et.al [1998]; Orłowski [2000].

2 Throughout the whole chapter, the presented data and the calculated indicators refer to trade in goods.

trade expansion with the EU Member States. Since Poland's accession, both intra-EU trade and extra-EU trade have been continuously growing.[3] In 2004–2019, intra-EU exports increased by 74% and intra-EU imports – by 67%, whereas extra-EU exports grew by 75.5% and extra-EU imports – by 76%. Obviously, it is worth emphasizing that the development of international trade started much earlier – already at the beginning of the 1990 s, along with the commencement of the transition period from the centrally planned toward the market economy. It was later fuelled by the "integration anchor", including the Europe Agreement, related to the further EU accession. Nevertheless, this is the intra-EU trade that is particularly significant for Poland. Throughout the whole period of Poland's membership in the EU, the volume of Polish exports and imports to the EU Member States has continued to exceed the trade exchange with other countries (Figure 1; Table 1).

Figure 1. Poland's exports and imports within and outside EU28 and total (million USD)



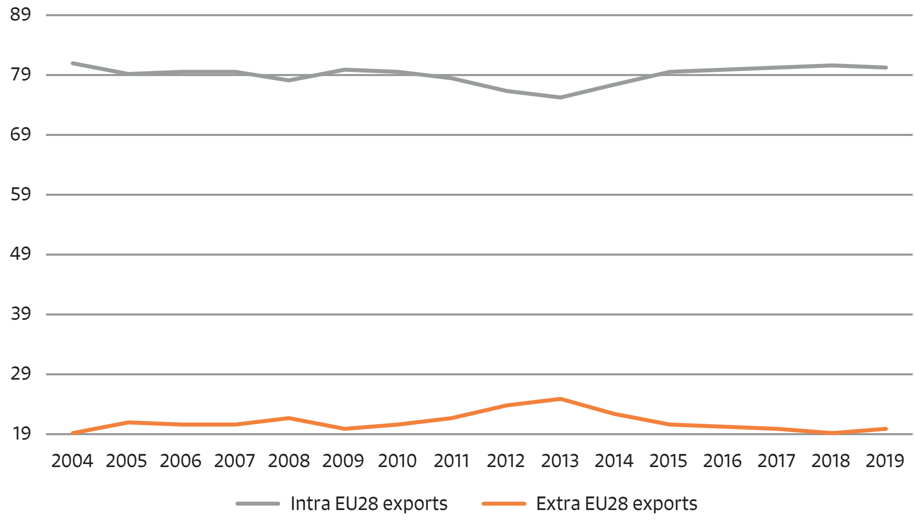
Source: Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Since Poland's accession to the EU, Poland's intra-EU exports and intra-EU imports shares in the country's total trade have been significant (they account for nearly 2/3 of the total trade exchange). In 2004 Poland's intra-EU exports accounted for 80.6 of the total exports and in 2019 – 79.9%, whereas extra-EU exports accounted for 19.4% of the total exports in 2004 and in 2019 – 20.1%. Figure 2 demonstrates that these shares were not constant over time. In 2013, intra-EU28 exports fell by a few percentage points and

3 All the data on international trade refer to trade in goods. They correspond to the Eurostat SITC (Standard International Trade Classification) classification.

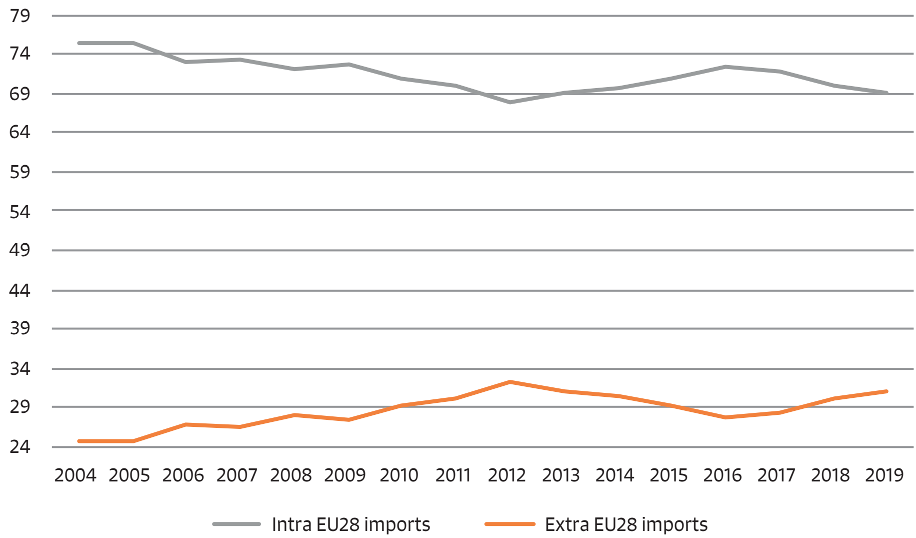
– accordingly – extra-EU28 exports increased. It was a short-run change, not affecting much the long-run average. Similarly, Poland's intra-EU imports accounted for 75.4% of the total imports in 2004 and 69% in 2019, whereas extra-EU imports accounted for 24.6% of the total imports in 2004 and 31% in 2019 (Figure 3).

Figure 2. Poland's extra- and intra-EU28 exports in 2004–2019 (%)



Source: Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Figure 3. Poland's extra- and intra-EU28 imports in 2004–2019 (%)



Source: Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

The increase of imports from the non-EU members resulted, among others, from an increase of oil and gas imports from outside the EU. For example, it can be mentioned the imports of gas from Qatar and the USA. Moreover, along with the economic development Poland has increased its oil demand, which has been satisfied by imports from other than the EU countries.

Some experts [Bielska, 2007; Urban, 2008] expressed concerns that, after the accession to the EU, the growth of imports from the EU Member States would exceed Polish exports mainly due to trade liberalisation and more aggressive market selling strategies implemented by multinational corporations at home market. However, the forecast on a temporary deterioration of Polish trade balance did not prove in practice – since 2009, the trade balance has been showing surplus with the EU countries. Over the period of 10 years (2009–2019), this surplus of the intra-EU trade has significantly increased from EUR 343.6 million to EUR 26.8 billion, whereas trade with other countries (extra-EU) has been constantly showing deficit (which increased by 167% in 2009–2019). The positive trade balance with the EU countries showed that the Polish economy was able to withstand the competition forces of the Single Market. In the last analysed year, i.e., 2019, as a result of faster growth of exports than imports the total trade balance was positive (EUR 1.2 billion) not because the extra-EU trade deficit decreased (it even increased), but due to a substantial growth in the positive intra-EU trade balance (Table 1).

Table 1. Poland's foreign trade turnover in total and with EU Member States in 2004–2019 (billion EUR)

Specification	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total exports	60.3	71.9	88.2	102.3	115.9	97.9	120.5	135.6	144.3	154.3	165.7	179.5	184.2	207.4	223.2	238.2
Extra-EU exports	11.7	15.1	18.3	21.3	25.4	19.7	24.9	29.5	34.3	38.6	37.4	37.1	37.4	41.5	43.4	47.8
Intra-EU exports	48.7	56.7	69.9	81.0	90.5	78.2	95.6	106.0	110.0	115.8	128.3	142.4	146.8	165.9	159.5	190.4
Total imports	72.1	81.7	101.1	120.9	142.0	107.2	134.3	151.3	154.9	156.3	168.4	177.2	180.3	206.8	227.8	237.0
Extra-EU imports	17.7	20.1	27.2	32.2	39.9	29.3	39.2	45.4	50.0	48.5	51.1	51.9	49.7	58.5	68.3	73.4
Intra-EU imports	54.4	61.6	73.9	88.7	102.1	77.9	95.1	105.9	104.9	107.8	117.3	125.3	130.5	148.3	159.5	163.6
Total trade balance	−11.8	−9.8	−12.9	−18.7	−26.1	−9.3	−13.8	−15.7	−10.7	−2.0	−2.7	2.4	3.9	0.6	−4.6	1.2
Extra-EU trade balance	−6.1	−5.0	−8.9	−11.0	−14.5	−9.6	−14.3	−15.8	−15.7	−9.9	−13.7	−14.8	−12.4	−17.0	−25.0	−25.6
Intra-EU trade balance	−5.7	−4.8	−4.0	−7.7	−11.6	0.3	0.4	0.1	5.0	7.9	11.0	17.1	16.3	17.5	20.4	26.8

Source: Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Simultaneously, it is important to remember that by the end of the 1980s of the 20th century Polish economy was a part of the economy of the East block separated from the West by an "iron curtain", and additionally Poland was in a process of economic collapse for many years. In 1989, the systemic transformation started and at the beginning of the 1990s, Poland recorded a deep recession. However, compared to the other new EU Member States, the transformation recession in Poland lasted for a short period and Poland started to achieve positive economic growth relatively early. The systemic transformation and the development of the relations with Western European countries both were one of the most important factors responsible for an increase of the significance of the intra-EU trade.

2. Dynamics of Poland's intra-EU trade in goods

In 2005 Poland's exports of goods to the EU Member States increased by 16.6% from EUR 48.7 billion (in 2004) to EUR 55.7 billion (in 2005). In the following years, Poland's intra-EU28 exports amounted to EUR 40 billion (an increase of 23.3%) in 2006, EUR 81 billion (an increase of 15.8%) in 2007 and EUR 905 billion (an increase of 11.8%) in 2008. In 2009, during the time of crisis, it decreased by 13.6%. In comparison to other EU countries from Western Europe, it was not a substantial decrease, e.g., in Finland it decreased by 31.6%, in Sweden – by 26.9%, in Italy – by 22.7%. Actually, it was the smallest decrease when compared to other new EU Member States (except for Romania). During 2010, Poland's intra-EU exports increased by 22.2%, but in the coming years it was losing its previous dynamics. In 2017, Poland's exports to the EU Member States gained again its dynamics – an increase of 13.0% – compared to the previous year. In 2019, the volume of exported goods to EU Member States increased by 5.9% to EUR 19 billion (Table 2). In Poland, the growth of intra-EU28 exports during the 2004–2019 period was enormous – it rose by 291%. In terms of this indicator, Poland ranked 2nd, after Bulgaria. In general, the highest growth of intra-EU28 exports over the 2004–2019 period was noticed by new EU member states (with Bulgaria, Poland and Latvia occupying the first three positions) whereas the growth of exports recorded by Western European countries was lower.

Poland's imports from the EU Member States have also been growing since its accession to the EU, although more slowly than exports – in 2005, imports increased by 13.3% from EUR 54.4 billion (in 2004) to EUR 61.6 billion (in 2005). In the following year, it reached the level of EUR 73.9 billion, in 2007 – EUR 88.7 billion (which was an increase of 20% per annum both in 2006 and 2007) and in 2008 – EUR 102.1 billion (an increase of 15.1%). During the crisis period in 2009, the volume of goods imported to Poland from the EU Member States decreased by 23.8% in comparison to the previous year.

Table 2. Dynamics of the growth of intra-EU28 exports y/y (%)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2019 index (2004 = 100)
Bulgaria	13.3	29.3	13.8	10.8	−17.1	24.6	32.8	−3.6	9.1	3.1	7.9	7.3	10.9	9.1	2.8	395.7
Poland	16.6	23.3	15.8	11.8	−13.6	22.2	10.9	3.7	5.3	10.8	11.0	3.1	13.0	8.4	5.9	391.4
Latvia	27.4	11.9	23.7	7.6	−21.0	29.5	28.7	12.1	3.6	5.6	0.9	0.9	7.0	9.8	3.3	378.6
Romania	10.4	15.8	16.9	11.6	−9.2	25.1	19.1	−1.8	8.8	8.2	7.9	7.0	10.2	9.5	1.6	369.2
Slovakia	15.4	29.7	27.9	11.5	−16.4	21.8	15.2	8.2	1.4	2.3	5.8	2.8	6.0	7.4	0.3	349.0
Lithuania	24.0	15.0	13.0	19.6	−21.8	25.8	29.5	12.6	−2.2	−1.9	5.2	−2.3	12.3	7.9	4.8	346.2
Czechia	11.1	20.6	17.6	11.1	−19.1	22.7	15.3	1.8	−0.3	9.3	9.4	3.7	10.0	6.8	3.3	306.0
Slovenia	18.5	19.4	19.1	4.3	−18.8	18.8	12.7	−2.5	2.1	6.3	7.3	2.5	14.9	10.8	3.4	292.7
Cyprus	67.9	−13.4	−2.2	5.5	−21.6	16.1	26.7	−7.6	7.2	40.5	5.8	−0.5	−14.7	12.5	15.0	279.7
Estonia	26.5	4.5	11.4	5.2	−24.0	33.0	32.7	3.9	5.5	0.1	−0.4	1.1	5.1	6.1	3.6	265.2
Croatia	5.3	18.6	2.3	7.6	−22.2	19.6	5.5	−2.3	5.3	12.2	16.2	6.4	11.1	10.0	3.9	244.5
Hungary	10.5	16.1	15.8	5.1	−18.9	18.3	10.6	−0.1	1.0	5.7	8.4	3.8	9.2	5.4	4.8	239.8
Greece	6.1	20.1	8.2	4.4	−20.7	13.9	8.4	−3.1	5.1	2.0	7.0	2.2	8.2	14.1	7.3	212.1
Netherlands	13.6	12.1	7.4	9.2	−19.3	21.0	10.3	4.6	−1.0	0.4	1.4	0.7	10.7	5.2	1.8	202.5
Portugal	8.5	11.4	6.0	−2.1	−17.4	17.6	13.4	0.7	3.6	2.3	6.0	4.2	8.5	8.0	4.4	199.2
Spain	2.6	8.1	8.0	1.8	−14.6	15.8	11.3	−0.4	2.9	3.5	6.3	5.7	7.2	3.9	1.9	181.6
Germany	6.2	11.9	11.1	−0.2	−19.6	13.9	10.0	−1.7	−0.2	4.8	6.8	1.9	6.3	3.8	−0.1	163.7
Austria	3.2	8.5	10.5	2.8	−21.0	16.2	9.4	−0.1	1.7	1.5	2.9	0.6	9.1	5.4	1.1	158.5
Belgium	8.5	8.2	7.2	3.1	−18.5	11.6	9.5	−1.2	1.9	1.2	2.4	1.0	6.2	5.1	0.3	152.4
Italy	4.4	10.6	9.3	−2.1	−22.7	14.8	8.9	−0.5	−1.0	4.3	3.3	3.3	7.2	5.1	2.9	151.8
Malta	0.5	15.0	−3.9	−14.0	−14.1	35.8	16.3	−0.3	−3.8	−11.2	−2.3	12.9	16.9	5.3	−0.5	149.1
Sweden	6.2	13.9	6.4	−0.6	−26.9	24.7	10.2	1.4	−4.7	−0.5	1.9	0.8	7.5	4.6	−0.8	141.6
Ireland	6.1	−2.5	2.7	−4.6	−5.3	0.5	4.0	2.8	−8.0	−0.4	17.6	0.6	4.9	12.5	2.6	135.4
Finland	4.1	17.8	6.0	−1.7	−31.6	13.7	11.2	−3.8	1.4	3.6	−0.9	−3.5	16.9	5.7	1.9	134.5
Denmark	10.5	8.3	0.7	5.2	−18.0	4.8	10.0	1.1	0.1	0.5	−1.3	0.6	5.5	1.6	2.2	132.6
France	−1.4	9.4	3.4	0.0	−18.8	10.7	8.5	−0.2	−0.5	1.4	2.1	0.2	3.5	4.5	2.0	123.6
UK	8.2	26.5	−17.1	−4.4	−21.4	18.1	10.3	1.3	−4.2	2.7	1.2	−4.7	6.1	4.1	0.3	118.3
Luxembourg	16.8	18.9	−10.3	5.2	−13.6	−11.9	2.1	−3.7	−3.0	5.7	9.4	−9.2	−0.2	−0.6	5.6	104.6

Yellow and green cells indicate positive values, whereas orange and red cells represent negative values.

Source: own elaboration based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

In many other new EU Member States, such as, e.g., Bulgaria, Estonia, Latvia, Lithuania and Romania there was recorded a greater decrease in the intra-EU imports. In 2010, Poland's intra-EU imports increased by 22.2%. Nevertheless, in the following years Poland's intra-EU imports were losing their dynamics comparing to the first years after the accession. In 2019, the volume of goods imported from the EU Member States increased by 2.6% from EUR 159.5 billion to EUR 163.6 billion. In terms of the growth of intra-EU28 imports over the 2004–2019 period, Poland ranked 6th (imports rose by 201% between 2004 and 2019) (Table 3). Like intra-EU28 exports, also in the case of the growth of intra-EU28 imports the top ranks were recorded by the CEE countries whereas the Western European members states exhibited lower dynamics of intra-EU28 imports.

In 2019, the value of exports within the EU ranged from EUR 777.6 billion for Germany to EUR 1.4 billion for Cyprus. However, in terms of the share in GDP, the ranking of countries is different. In 2019, the highest intra-EU28 exports-to-GDP ratio was recorded by the CEE countries (Slovakia – 72.3%, Czechia – 66.7%, Hungary – 61.9%, and Slovenia – 61.0%) (Table 4). Although Germany was the country with the highest volume of exports to the EU Member States, its exports decreased by 0.1% in 2019 in comparison to the previous year. Similarly, the UK exports has also significantly lost its dynamics (from 6.1% in 2017 and 4.1% in 2018 to 0.3% in 2019), which may be caused by Brexit. Interestingly, this was Cyprus that was characterised by the biggest dynamics of export growth in 2019 – it increased by 15% compared to the previous year. Poland occupied the third place in terms of the growth dynamics of the intra-EU exports, just after Cyprus and Greece, whereas with regard to the growth dynamics of the intra-EU imports – the 12th place among all EU Member States and is overtaken by such new EU Member States as: Bulgaria, Croatia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia and Slovenia.

As far as intra-EU imports is concerned, Germany also occupies the first place with the value of imports equalled to EUR 735.7 billion (2019). Malta belongs to the EU countries that imported the least in 2019 – its intra-EU imports amounted to EUR 4.6 billion; however, simultaneously it is also a country with the biggest dynamics of import growth – 12.4% (2019) (Table 2 and 3). Like in the case of exports, also the CEE countries are leaders in terms of the ratio of intra-EU28 imports to GDP in 2019 (Slovakia – 69.2%, Czechia – 54.4%, and Hungary – 54.3%) (Table 4).

In 2019, there were ten EU Member States whose exports and imports of goods to partners in the EU were over EUR 100 billion. Poland placed itself within these economies, in 2019, occupying the eighth place just after great economies, like e.g., Germany, France and the UK (Figure 4).

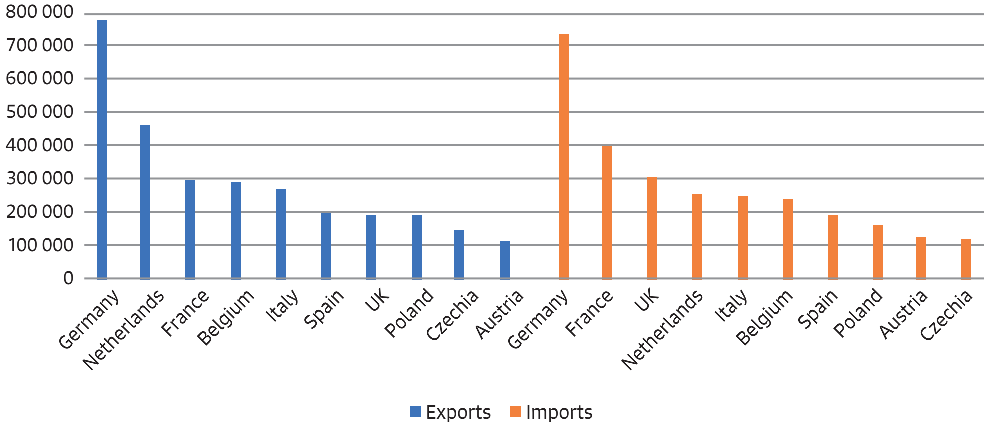
Table 3. Dynamics of the growth of intra-EU28 imports y/y (%)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2019 index (2004 = 100)
Romania	18.5	25.8	41.6	8.9	−28.5	19.3	17.6	0.6	4.2	5.3	10.1	6.9	10.2	8.0	4.1	371.2
Lithuania	17.5	30.3	25.7	0.0	−36.3	28.8	29.6	10.7	10.2	7.4	1.3	2.2	14.6	5.8	3.5	348.3
Slovakia	14.6	24.3	22.4	11.2	−18.6	21.9	15.8	5.0	3.0	2.6	10.2	4.6	6.8	8.8	3.5	342.7
Bulgaria	18.1	20.6	35.8	11.1	−28.9	11.2	23.3	7.4	3.1	4.5	5.2	2.5	11.2	5.6	3.1	316.4
Latvia	21.9	33.6	23.1	−4.3	−36.0	26.4	35.3	15.4	2.7	1.2	−3.3	−0.3	12.6	5.7	5.3	304.3
Poland	13.3	20.0	20.0	15.1	−23.8	22.2	11.3	−1.0	2.8	8.8	6.9	4.2	13.6	7.5	2.6	300.8
Czechia	10.9	19.4	15.6	7.5	−20.8	21.7	13.9	1.7	0.6	7.8	9.5	3.4	10.7	6.2	1.7	269.7
Estonia	27.0	27.0	12.8	−3.3	−32.8	26.6	29.6	14.3	4.2	−1.3	−5.1	3.4	8.4	3.8	1.2	254.8
Hungary	12.1	17.1	10.8	4.4	−24.3	17.7	13.4	2.0	3.2	9.8	7.0	3.7	9.9	5.4	3.9	236.8
Malta	5.7	7.0	6.9	6.3	−12.6	11.3	24.6	18.6	−16.9	−2.1	12.9	−11.2	2.4	25.1	12.4	217.0
Croatia	7.1	13.2	6.2	9.4	−28.5	−4.5	10.5	0.7	9.4	17.9	10.4	5.5	12.2	8.6	8.2	212.0
Slovenia	11.6	15.9	14.1	5.1	−24.4	14.9	11.8	−2.5	−2.0	0.3	6.5	4.0	13.2	8.7	3.3	203.2
Germany	6.6	14.3	8.1	3.1	−16.4	17.3	13.7	−0.2	0.7	3.4	4.5	1.7	7.9	5.9	1.8	194.5
Netherlands	5.8	11.8	9.3	7.6	−18.0	16.4	9.8	4.2	−1.0	−1.1	4.1	0.3	10.2	6.8	2.9	188.1
Ireland	12.3	8.5	7.3	−6.8	−26.2	6.7	10.8	1.4	5.6	11.1	10.8	4.8	12.7	7.7	1.6	181.1
Portugal	17.0	8.8	5.8	4.6	−15.9	10.9	−2.5	−7.7	1.9	7.5	4.6	3.5	11.2	7.7	6.6	179.0
Cyprus	14.4	7.8	14.5	13.3	−17.3	11.8	−5.2	−9.0	−14.7	15.7	3.8	16.3	5.6	6.6	2.4	175.2
Sweden	8.4	12.0	12.2	−0.3	−26.3	29.0	15.1	−0.7	−3.4	0.9	4.0	3.7	7.7	3.7	−1.7	170.3
Finland	13.1	12.2	8.1	1.4	−26.6	17.3	11.8	0.4	3.5	1.7	1.0	1.0	11.5	4.3	0.6	168.9
Austria	3.1	5.8	8.3	3.7	−18.4	16.2	13.8	−0.1	−0.5	−0.5	2.6	3.0	8.1	5.8	1.1	159.8
Denmark	11.1	14.0	5.9	2.3	−21.8	5.0	10.6	3.7	2.5	1.2	2.9	2.8	4.0	6.1	1.0	158.0
France	3.8	9.1	7.1	3.8	−15.5	12.4	10.5	1.0	−1.0	−0.2	2.3	0.9	6.3	2.8	1.3	150.7
Luxembourg	7.5	15.8	−1.2	8.3	−20.6	15.7	12.6	−3.4	−3.0	1.4	−5.6	0.8	10.1	6.6	2.0	149.1
Belgium	10.4	8.3	5.9	4.6	−19.3	14.0	11.3	1.7	−2.2	−1.8	−4.2	2.8	6.9	6.4	−1.4	146.3
UK	10.2	17.4	−8.9	−8.2	−19.7	18.4	7.9	9.4	−0.1	6.9	10.0	−4.1	1.7	2.0	2.2	145.0
Italy	3.5	10.4	6.1	−3.1	−18.0	17.8	7.1	−6.6	−1.3	1.9	6.6	2.7	8.2	3.8	0.5	141.1
Spain	5.6	8.6	10.7	−5.3	−22.7	11.1	5.8	−7.6	−0.5	9.3	10.3	1.8	7.0	4.4	0.1	137.8
Greece	−0.5	10.8	13.9	1.5	−17.3	−9.5	−8.3	−9.4	−2.7	5.0	−0.9	4.6	8.4	8.7	4.6	103.4

Yellow and green cells indicate positive values, whereas orange and red cells represent negative values.

Source: own elaboration based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Figure 4. EU28 top 10 economies in terms of intra-EU exports and imports of goods in 2019 (million EUR)



Source: own elaboration based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Table 4. The shares of intra-EU28 exports and intra-EU28 imports in GDP in 2019

Country	Exports-to-GDP ratio	Imports-to-GDP ratio	Exports-to-GDP ratio (rank)	Imports-to-GDP ratio (rank)
Austria	28.4	32.4	12	12
Belgium	60.9	51.5	5	4
Bulgaria	32.4	34.4	10	10
Croatia	19.2	37.0	18	9
Cyprus	6.5	24.2	28	18
Czechia	66.7	54.4	2	2
Denmark	18.6	19.6	19	21
Estonia	36.2	44.7	7	7
Finland	16.1	19.6	21	22
France	12.2	16.4	24	24
Germany	22.5	21.3	14	19
Greece	10.4	16.2	26	25
Hungary	61.9	54.3	3	3
Ireland	20.2	16.6	16	23
Italy	15.1	14.1	23	27
Latvia	31.0	43.3	11	8
Lithuania	35.7	45.2	8	6
Luxembourg	19.5	28.9	17	16
Malta	11.0	34.2	25	11
Netherlands	57.4	31.7	6	13
Poland	35.7	30.7	9	14

Country	Exports-to-GDP ratio	Imports-to-GDP ratio	Exports-to-GDP ratio (rank)	Imports-to-GDP ratio (rank)
Portugal	21.5	28.6	15	17
Romania	23.7	28.9	13	15
Slovakia	72.3	69.2	1	1
Slovenia	61.0	51.4	4	5
Spain	16.0	15.6	22	26
Sweden	17.5	21.0	20	20
United Kingdom	7.7	12.2	27	28

Source: own elaboration based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

3. Poland's EU trading partners

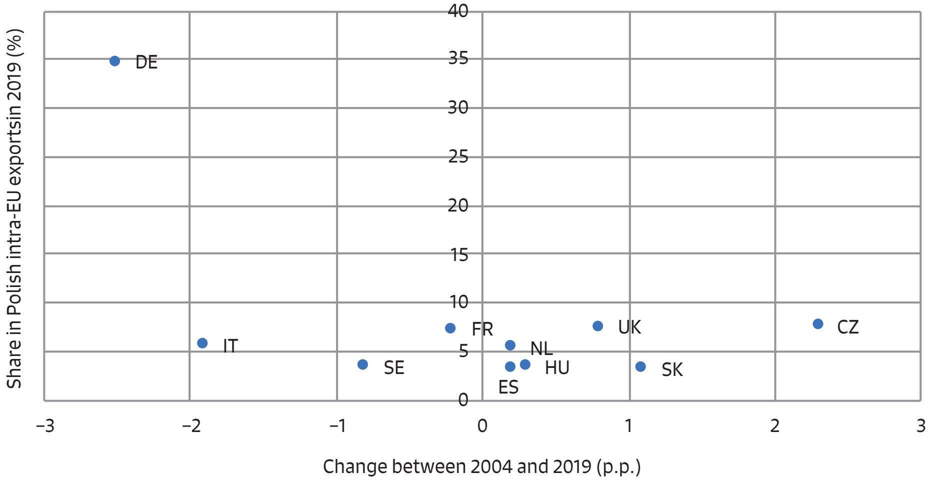
Among the main ten Polish export partners, eight were the EU Member States in 2019, with Germany occupying the first place on the list.[4] When it comes to Poland's EU-intra trade, Germany also occupies the first place – about 35% of Polish total exports and 39% of Polish total imports (Figure 6 and 8). Germany has always been Poland's main trading partner in the whole time period analysed; however, its share in the Polish total exports has decreased over the last 15 years. There has been recorded a decrease in the Polish exports to Germany by 2.5 p.p. in the time period 2004–2019 (Figure 5). After the accession to the EU, also Italy, France and the UK were Poland's important trading partners – in 2004 Poland's exports to Italy and France accounted for nearly 8%, respectively, and to the UK – nearly 7% (Figure 6). However, Poland has increased its exports to its two Southern neighbours – Czechia (in 2004–2019 there was recorded a growth by 2.3 p.p.) and Slovakia (growth by 1.1 p.p. in 2004–2019), despite the fact that the trade volume to these countries is relatively small (Figure 5). It may result from the fact that after the EU enlargement, there was trade diversion towards Poland's Southern neighbours. Due to the liberalisation of trade and abolishment of trade barriers as well as relatively law transactional costs connected with the geographical distance (good transport connections) Poland intensified its exports to its Southern neighbours. There should be also emphasised the significance of the UK in Poland's intra-EU exports (in 2004–2019 there was recorded a growth of exports by 0.8 p.p.).

In terms of Poland's intra-EU import, after Poland's accession to the UE, on the list just after Germany were also Italy and France (Poland's imports from Italy accounted for 10% of the total intra-EU imports and from France – 9%). However, in 2010 Italy was overtaken by the Netherlands and, since then, it has been occupying the second place after

4 These are Germany, Czechia, the UK, France, Italy, the Netherlands, Sweden, Hungary, Russia and the USA.

Germany with the share of 8% of the total intra-EU imports. Then on the list there were Italy (7%), as well as France and Czechia (5%, respectively) (Figure 8). In 2004–2019, there was recorded a growth of the Polish imports from Germany (a growth of 2 p.p.) (Figure 7).

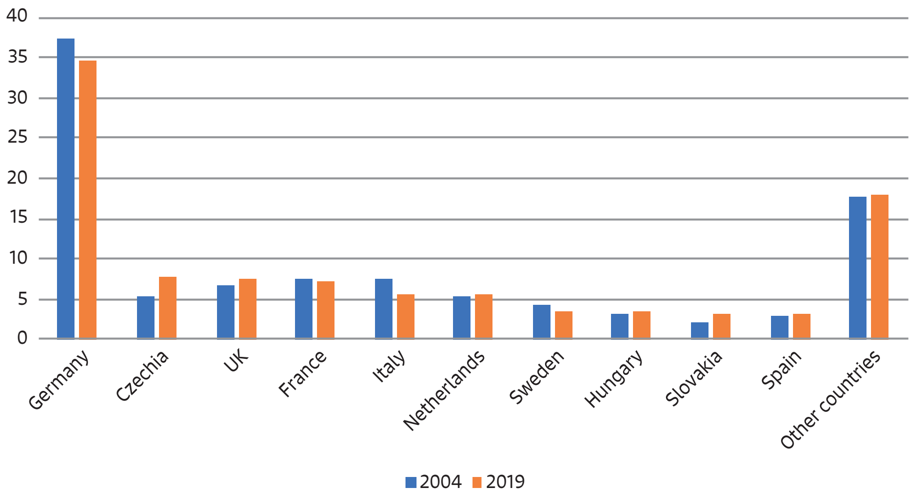
Figure 5. Top 10 Poland's EU trading partners and their share in Polish intra-EU exports



CZ – Czechia, DE – Germany, ES – Spain, FR – France, HU – Hungary, IT – Italy, NL – Netherlands, SE – Sweden, SK – Slovakia, UK – United Kingdom.

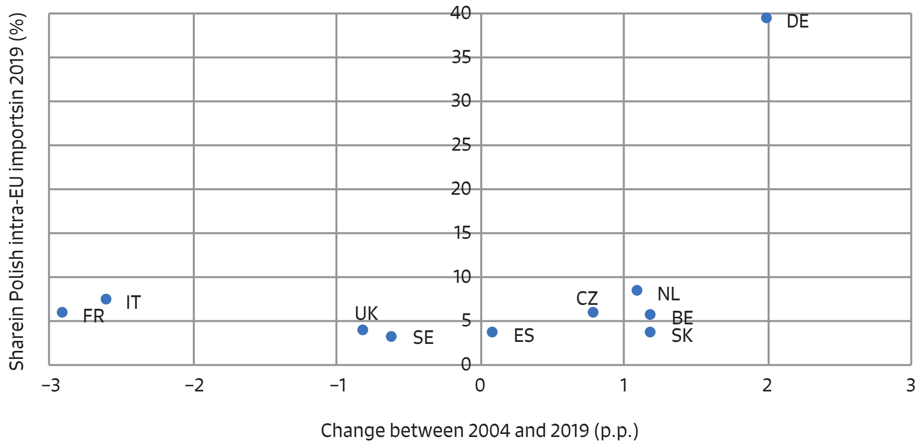
Source: own calculations based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Figure 6. Poland's 2019 top 10 EU trading partners in exports (%)



Source: own elaboration based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

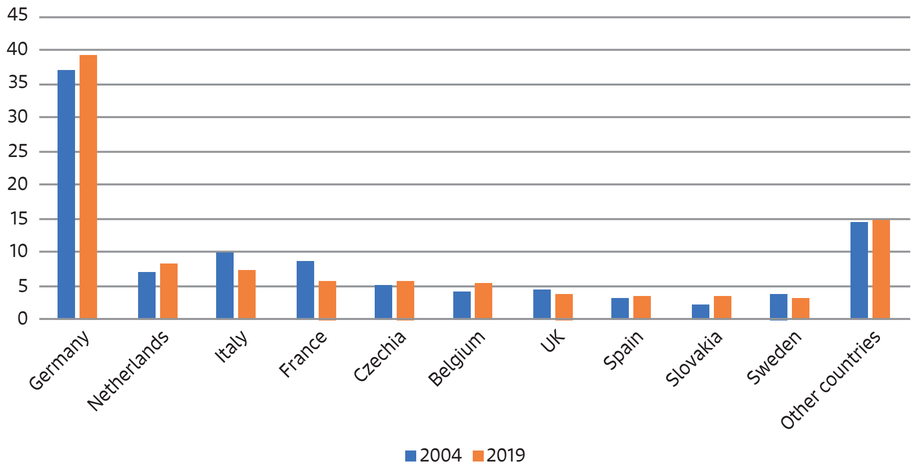
Figure 7. The top 10 Poland's EU trading partners and their share in Polish intra-EU imports



BE – Belgium, CZ – Czechia, DE – Germany, ES – Spain, FR – France, IT – Italy, NL – Netherlands, SE – Sweden, SK – Slovakia, UK – United Kingdom.

Source: own calculations based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Figure 8. Poland's 2019 top 10 EU trading partners in imports (%)



Source: own calculation based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Due to the fact that imports are directly proportional to income, together with a growth of the GDP in Poland, the demand for highly processed goods (e.g., vehicles, electronic devices, household appliances) produced by the German economy is increasing. Similarly, in 2004–2019 there has been recorded a growth of the Polish imports from Slovakia (by 1.2 p.p.) and Czechia (by 0.8 p.p.). It results from the general increase of the trade exchange with the Poland's Southern neighbours. Simultaneously, there has been recorded a decrease of other EU countries in Poland's intra-EU imports, e.g., the share of France fell by as much as almost 3 p.p., Italy – a decrease of 2.6 p.p. in 2004–2019 (Figure 7).

4. Poland's comparative advantage in intra-EU trade in goods

To determine the significance of goods in exports of a particular country, the Balassa's [1965] Revealed Comparative Advantage (RCA) index is often applied [Deardoff, 1985; Langhammer, 2004; Ambroziak, 2018], which measures the country's exports of a commodity in relations to their total exports and to the corresponding export performance of a set of exporters to the same market. Due to the fact that the RCA index is non-symmetric, the Revealed Symmetric Comparative Advantage (RSCA) index [Dalum et al., 1998; Laursen, 2015] has been applied in the study to measure the comparative advantage of particular commodity groups exported to other EU Member States. The RSCA ranges from −1 to +1 and avoids the problem of zero values. It enables to identify the country as a holder of a comparative advantage (index above zero) or comparative disadvantage (index below zero). The formula of the RSCA index applied in the study is as following:

$$RSCA = \left(RCA_j^i - 1\right) / \left(RCA_j^i + 1\right)$$

where:

$$RCA_j^i = \left(\frac{x_j^i}{\sum x_j^i}\right) / \left(\frac{x_j^{EU}}{\sum x_j^{EU}}\right)$$

and

x_j^i – value of exports of goods *j* of a country *i* (to the EU Internal Market);

x_j^{EU} – value of exports of goods *j* within a reference group.

The RSCA of Poland in relation to other EU countries was calculated for the period 2004–2019 by using the Standard International Trade Classification (SITC) which classifies goods into 10 groups:

- 0 – food,
- 1 – beverages and tobacco,
- 2 – crude materials, except fuels,
- 3 – mineral fuels, lubricants and related materials,
- 4 – animal and vegetable oils and fats,
- 5 – chemical and related products,
- 6 – manufactured goods classified mainly by material,
- 7 – machinery and transport equipment,

- 8 – miscellaneous manufactured articles,
- 9 – special transactions and commodities not classified according to kind.

The results of the calculations conducted for the trade volume of Poland with EU Member States (RSCA indexes for particular EU Member States) were collected in the Table 5.

Table 5. Comparative advantage in trade in goods* in Poland and other EU Member States in 2019 – RSCA

Country	Food and live animals	Beverages and tobacco	Crude materials, inedible, except fuels	Mineral fuels, lubricants and related materials	Animal and vegetable oils, fats and waxes	Chemicals and related products, n.e.s.	Manufactured goods classified chiefly by material	Machinery and transport equipment	Miscellaneous manufactured articles	Commodities and transactions not classified elsewhere in the SITC
Poland	**0.103**	**0.253**	**−0.137**	**−0.414**	**−0.468**	**−0.300**	**0.125**	**−0.004**	**0.183**	**−0.818**
Austria	−0.150	0.087	0.066	−0.340	−0.319	−0.114	0.200	0.028	−0.051	−0.052
Belgium	0.047	0.012	−0.048	0.136	−0.187	0.274	−0.009	−0.196	−0.066	−0.166
Bulgaria	0.147	−0.081	0.422	−0.098	0.408	−0.228	0.181	−0.166	0.135	−0.004
Croatia	0.052	0.203	0.469	0.045	0.191	−0.120	0.132	−0.182	0.135	−0.424
Cyprus	0.403	−0.293	0.031	0.337	−0.260	−0.025	−0.918	0.058	−0.501	0.429
Czechia	−0.452	−0.194	−0.133	−0.486	−0.277	−0.437	0.007	0.216	−0.015	−0.338
Denmark	0.348	0.052	0.123	0.039	0.231	−0.019	−0.162	−0.152	0.101	0.272
Estonia	−0.059	0.023	0.547	0.281	0.097	−0.419	0.098	−0.135	0.155	0.204
Finland	−0.532	−0.553	0.450	0.383	−0.854	−0.268	0.360	−0.080	−0.442	−0.078
France	0.066	0.266	−0.008	−0.235	−0.137	0.079	−0.082	−0.008	0.001	0.034
Germany	−0.178	−0.228	−0.177	−0.252	−0.228	−0.009	−0.008	0.085	−0.020	0.191
Greece	0.375	0.267	-0.070	0.491	0.619	0.002	0.102	-0.542	-0.040	0.261
Hungary	−0.143	−0.405	−0.188	−0.365	0.146	−0.179	−0.168	0.212	−0.186	−0.459
Ireland	0.158	−0.124	−0.204	−0.746	−0.650	0.577	−0.684	−0.531	−0.128	0.050
Italy	−0.050	0.194	−0.355	−0.317	−0.111	−0.030	0.168	−0.060	0.116	0.232
Latvia	0.208	0.177	0.708	−0.016	−0.239	−0.287	0.205	−0.260	−0.097	−0.454
Lithuania	0.273	0.430	0.359	0.344	−0.045	0.003	−0.069	−0.358	0.160	−0.943
Luxembourg	−0.079	0.125	−0.154	−0.965	−0.908	−0.181	0.379	−0.018	−0.204	0.278
Malta	−0.824	−0.652	−0.921	0.533	−1.000	0.149	−0.480	−0.076	0.211	0.422
Netherlands	0.148	−0.200	0.244	0.359	0.304	0.024	−0.205	−0.084	−0.030	−0.332
Portugal	−0.070	0.349	0.181	−0.140	0.306	−0.297	0.160	−0.066	0.206	−0.336
Romania	−0.298	0.182	0.015	−0.461	−0.094	−0.601	0.046	0.149	0.165	−0.448
Slovakia	−0.427	−0.771	−0.173	−0.298	−0.720	−0.564	0.075	0.233	−0.127	−0.508
Slovenia	−0.291	−0.624	0.049	0.006	−0.419	−0.110	0.134	0.075	−0.074	−0.801
Spain	0.294	0.039	−0.088	−0.003	0.529	−0.140	0.022	−0.048	−0.066	0.173
Sweden	−0.065	−0.426	0.433	0.173	−0.389	−0.198	0.140	0.002	−0.206	0.168
UK	−0.147	0.157	−0.278	0.398	−0.210	0.005	−0.173	−0.027	0.053	0.092

* The commodity groups were selected according to the SITC classification of Eurostat.
Green cells indicate positive values, whereas yellow-orange-red cells represent negative values.

Source: own calculations based on Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Table 6. Poland's comparative advantage in trade in goods* in 2004–2019 – RSCA

Commodity group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Food and live animals	0.006	0.090	0.105	0.094	0.077	0.040	0.045	0.054	0.095	0.106	0.096	0.103	0.098	0.106	0.117	0.103
Beverages and tobacco	−0.607	−0.453	−0.300	−0.207	−0.139	0.026	0.043	0.043	0.075	0.071	0.152	0.168	0.104	0.220	0.244	0.253
Crude materials, inedible, except fuels	0.005	−0.059	−0.065	−0.080	−0.096	−0.146	−0.136	−0.157	−0.152	−0.107	−0.116	−0.113	−0.142	−0.148	−0.121	−0.137
Mineral fuels, lubricants and related materials	0.174	0.019	−0.112	−0.145	−0.238	−0.291	−0.207	−0.206	−0.251	−0.266	−0.274	−0.241	−0.270	−0.340	−0.367	−0.414
Animal and vegetable oils, fats and waxes	−0.735	−0.443	−0.266	−0.177	−0.322	−0.321	−0.302	−0.385	−0.353	−0.198	−0.136	−0.166	−0.205	−0.494	−0.547	−0.468
Chemicals and related products, n.e.s.	−0.461	−0.446	−0.396	−0.401	−0.363	−0.422	−0.360	−0.314	−0.317	−0.300	−0.301	−0.313	−0.292	−0.271	−0.308	−0.300
Manufactured goods classified chiefly by material	0.170	0.155	0.145	0.129	0.122	0.116	0.125	0.144	0.173	0.165	0.150	0.134	0.129	0.120	0.121	0.125
Machinery and transport equipment	−0.011	0.001	0.014	0.034	0.058	0.104	0.078	0.051	0.035	0.027	0.023	0.001	−0.011	−0.017	−0.010	−0.004
Miscellaneous manufactured articles	0.160	0.147	0.125	0.109	0.115	0.071	0.086	0.100	0.104	0.105	0.123	0.152	0.171	0.186	0.193	0.183
Commodities and transactions not classified elsewhere in the SITC	−0.979	−0.952	−0.940	−0.938	−0.947	−0.962	−0.955	−0.810	−0.487	−0.715	−0.865	−0.819	−0.779	−0.883	−0.848	−0.818

* The commodity groups were selected according to the SITC classification of Eurostat

Green cells indicate positive values, whereas yellow-orange-red cells represent negative values.

Source: own calculations based on data from Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

The results of the calculations of the RSCA in the intra-EU exports indicate that Poland has the comparative advantage in trade in commodity groups, such as: beverages and tobacco (RSCA amounted to 0.253), miscellaneous manufactured articles (0.183), manufactured goods classified chiefly by material (0.125), and food and live animals (0.103). To compare it with the comparative advantage of Poland's main trading partners – Germany has the comparative advantage in trade in machinery and transport equipment (0.085), whereas Czechia, Poland's second important trading partner, in manufactured goods (0.007) and also, like Germany, in machinery and transport equipment (0.216). Poland's third main trading partner in terms of exports, the UK, has the comparative advantage in beverages and tobacco (0.157), mineral fuels, lubricants and related materials (0.398) as well as chemical and related products (0.005).

With regard to trade in agricultural-food products, the commodity group for which Poland has a relatively high RSCA index, other leading EU countries are Cyprus (has the greatest comparative advantage in this commodity group – RSCA equals 0.403), Greece, Denmark, Lithuania, Latvia, Ireland, the Netherlands and Bulgaria. As far as trade in beverages and tobacco is concerned Poland, competes with Lithuania (it has the greatest comparative advantage – 0.430), Portugal, Greece and France. In the case of trade in manufactured goods Poland competes with the EU Member States, such as: Luxembourg (it has the highest value of RSCA – 0.379), Finland, Latvia, Austria, Bulgaria, Italy, Portugal, Sweden, Slovenia and Croatia (Table 5).

Nevertheless, the calculations confirm that Poland's specialisation has slightly changed since the accession to the EU. In the post-accession period, Poland gained the comparative advantage in trade in beverages and tobacco (RSCA grew from −0.607 in 2004 to 0.253 in 2019) and strengthened its comparative advantage in trade in food and live animals (RSCA increased from 0.006 to 0.103). Although in 2004–2019 the RSCA index took the values indicating to the existence of Poland's comparative advantage in trade in manufactured goods, in 2019 it was clearly worse. Hence, it may seem that over the years Poland has been losing this advantage. Poland has no comparative advantage (or has comparative disadvantage) in trade in crude materials, mineral fuels, lubricants and related materials, chemicals and related products as well as machinery and transport equipment (Table 6).

In addition to the RSCA, another measure of the competitive position is the indicator of the export-import relation – the Lafay index [Lafay, 1992] – the index that reveals comparative advantage (disadvantage) of a particular industry taking into consideration not only exports but also imports. The Lafay index by taking into account imports allows controlling intra-industry trade and re-export flows; in this sense it is superior to the traditional Revealed Comparative Advantage index [Zaghini, 2003]. It is defined as a comparison, expressed in thousands of GDP, of the industry's balance of trade to a theoretical balance corresponding to the absence of specialisation [ITC, 2021]. The index takes values between $-\infty$ and $+\infty$; if it takes a value more than zero, the country has a comparative advantage to other competitors in exporting a selected industry's product.

The formula of the Lafay index applied in the study is as following [ITC, 2021]:

$$LFI_{d,i} = \frac{1000}{X_d + M_d}\left[\left(X_{d,i} - M_{d,i}\right) - \frac{\left(X_d - M_d\right)\left(X_{d,i} + M_{d,i}\right)}{X_d + M_d}\right]$$

where:
d – the country under the study,
i – specific industry,
n – number of industries,
X – exports,
M – imports.

Table 7. Comparative advantage in trade in goods* of Poland with other EU Member States in 2019 – the Lafay index

Country	Food and live animals	Beverages and tobacco	Crude materials, inedible, except fuels	Mineral fuels, lubricants and related materials	Animal and vegetable oils, fats and waxes	Chemicals and related products, n.e.s.	Manufactured goods classified chiefly by material	Machinery and transport equipment	Miscellaneous manufactured articles	Commodities and transactions not classified elsewhere in the sitc
Poland	**11.616**	**6.653**	**−1.910**	**1.927**	**−1.302**	**−38.443**	**2.341**	**−3.708**	**24.229**	**−1.402**
Austria	−3.884	4.156	−3.647	−11.577	−0.540	1.471	22.250	8.067	−18.593	2.296
Belgium	5.779	0.048	−4.664	−27.360	−1.534	11.112	16.499	−17.967	16.719	1.369
Bulgaria	10.307	−5.751	1.555	1.655	3.314	−36.510	29.605	−36.346	36.009	−3.839
Croatia	−11.886	1.679	26.195	−11.389	1.153	−10.100	5.955	−15.308	12.546	1.154
Cyprus	21.668	−8.776	7.218	−15.857	−0.185	12.839	−33.524	45.045	−30.668	2.240
Czechia	−11.663	−0.367	2.074	−9.178	0.130	−34.945	−16.545	71.747	−0.776	−0.478
Denmark	33.776	−0.789	1.648	15.634	0.767	6.278	−18.734	−53.467	11.018	3.870
Estonia	−7.554	−3.108	29.995	10.617	1.515	−31.453	6.501	−41.616	30.982	4.121
Finland	−22.671	−3.539	14.724	31.931	−2.531	−16.369	89.304	−53.473	−31.893	−5.482
France	4.596	4.844	3.106	−5.073	−0.069	15.937	−10.461	−6.245	−8.686	2.052
Germany	−8.424	−1.302	−7.936	−15.348	−0.367	−2.233	−1.563	31.484	4.923	0.766
Greece	14.647	2.003	0.776	55.227	6.298	−40.625	28.485	−62.824	−10.580	6.593
Hungary	3.322	−0.525	−0.327	−10.343	1.577	−13.388	−25.444	51.241	−4.337	−1.777
Ireland	3.622	−2.537	3.883	−26.570	−1.296	212.583	−23.934	−154.655	0.935	−12.031
Italy	−9.857	2.632	−11.890	0.225	−2.207	−24.886	28.350	−6.588	20.593	3.628
Latvia	5.875	−24.170	59.546	−10.158	−0.437	−20.694	41.297	−43.012	−9.773	1.526
Lithuania	19.693	2.804	11.833	39.844	0.056	−9.032	−9.440	−89.730	34.068	−0.096

Country	Food and live animals	Beverages and tobacco	Crude materials, inedible, except fuels	Mineral fuels, lubricants and related materials	Animal and vegetable oils, fats and waxes	Chemicals and related products, n.e.s.	Manufactured goods classified chiefly by material	Machinery and transport equipment	Miscellaneous manufactured articles	Commodities and transactions not classified elsewhere in the sitc
Luxembourg	−7.658	−9.621	−24.194	−52.853	−0.369	−6.124	77.949	24.170	−7.221	5.920
Malta	−34.778	−6.603	−1.209	−14.969	−0.621	54.960	−4.180	−47.033	46.707	7.725
Netherlands	6.120	−2.909	4.819	4.706	0.257	2.326	−12.273	0.568	−3.640	0.025
Portugal	−20.529	7.669	6.086	3.855	−0.691	−30.674	25.657	−25.836	32.720	1.743
Romania	−22.016	4.732	2.794	−1.090	0.602	−54.077	−15.706	54.793	30.433	−0.465
Slovakia	−11.292	−3.794	0.805	−0.604	−0.675	−23.962	2.686	47.205	−9.841	−0.529
Slovenia	−11.577	−3.325	−7.564	−17.291	−0.272	−10.349	0.126	46.706	3.700	−0.154
Spain	35.567	−1.238	−2.741	12.218	4.963	−27.586	10.062	−27.354	−7.174	3.282
Sweden	0.037	−3.986	19.834	9.608	−1.728	−9.769	24.091	−28.602	−14.863	5.378
UK	−20.241	−0.611	−3.396	47.795	−0.347	−1.122	−8.706	−20.635	5.568	1.695

* The commodity groups were selected according to the SITC classification of Eurostat.
Yellow and green cells indicate positive values, whereas orange and red cells represent negative values.

Source: own calculations based on data from Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

The results of the calculations of the Lafay index, similar to the RSCA index, indicate that in the period researched Poland has the comparative advantage in trade in food and live animals, beverages and tobacco (since 2006) as well as two commodity groups representing manufactured goods. Additionally, it indicates Poland's specialisation (relatively small) in mineral fuels, lubricants and related materials (the commodity group which was not showed by the RSCA index). The Lafay index shows that agricultural-food products rank 2nd in terms of the comparative advantage for Poland. In this area, the leaders are Spain, Denmark, Cyprus, Lithuania and Greece. Interestingly, when it comes to beverages and tobacco, Poland lags only Portugal. Poland's comparative advantage in trade in manufactured goods classified chiefly by material is relatively small compared to many other EU countries – e.g., Finland, Luxembourg, Latvia, Bulgaria (Table 7).

Researching the Lafay index in 2004–2019 there can be stated that Poland is slightly losing the comparative advantage in trade in food and live animals (the index fell from 13.7 to 11.6) and significantly gaining in beverages and tobacco (the index grew from −0.9 to 6.7), which may be influenced by the development of the juice industry. Additionally, Poland is significantly losing the comparative advantage in trade in mineral fuels, lubricants and related goods – in 2004 the index amounted to 17.9 and in 2019 – only 1.9. Poland has definitely the comparative disadvantage in trade in chemicals and related products (Table 8).

Table 8. Poland's comparative advantage in trade in goods* in 2004–2019 – the Lafay index

Commodity group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Food and live animals	13.711	16.392	16.302	14.977	12.081	9.198	7.929	7.864	10.182	12.069	11.661	13.226	12.064	12.641	13.666	11.616
Beverages and tobacco	−0.881	−0.675	0.481	1.061	1.704	4.088	3.527	3.602	4.148	4.247	5.348	5.224	4.076	6.289	6.706	6.653
Crude materials, inedible, except fuels	2.708	0.965	2.078	2.199	0.982	−1.870	−0.268	−1.625	−2.358	−1.167	−1.596	−1.981	−3.127	−2.610	−2.486	−1.910
Mineral fuels, lubricants and related materials	17.863	14.319	9.332	3.048	3.085	−0.281	7.518	9.534	13.455	12.038	9.091	7.469	4.114	2.889	3.647	1.927
Animal and vegetable oils, fats and waxes	−1.916	−1.299	−0.997	−0.448	−1.003	−0.747	−0.741	−1.526	−1.441	−0.839	−0.716	−0.613	−0.842	−1.577	−1.432	−1.302
Chemicals and related products, n.e.s.	−54.599	−55.337	−50.156	−45.506	−43.322	−51.636	−49.624	−46.116	−45.601	−44.815	−43.606	−40.634	−42.140	−40.130	−39.926	−38.443
Manufactured goods classified chiefly by material	−3.746	−7.544	−8.086	−4.965	−0.009	−6.850	−5.681	−0.245	2.840	1.009	−0.214	−0.575	−1.479	−1.094	−0.229	2.341
Machinery and transport equipment	−11.505	0.733	3.879	7.059	6.374	33.386	25.133	14.163	1.705	−0.155	3.253	−1.588	0.814	−1.656	−3.513	−3.708
Miscellaneous manufactured articles	38.394	32.363	27.995	23.709	21.371	16.521	13.651	16.364	18.242	20.182	18.472	20.306	26.387	27.010	25.168	24.229
Commodities and transactions not classified elsewhere in the sitc	−0.028	0.083	−0.829	−1.135	−1.262	−1.810	−1.444	−2.016	−1.172	−2.569	−1.693	−0.834	0.132	−1.762	−1.601	−1.402

* The commodity groups were selected according to the SITC classification of Eurostat.
Green cells indicate highly positive values whereas red cells represent highly negative values.

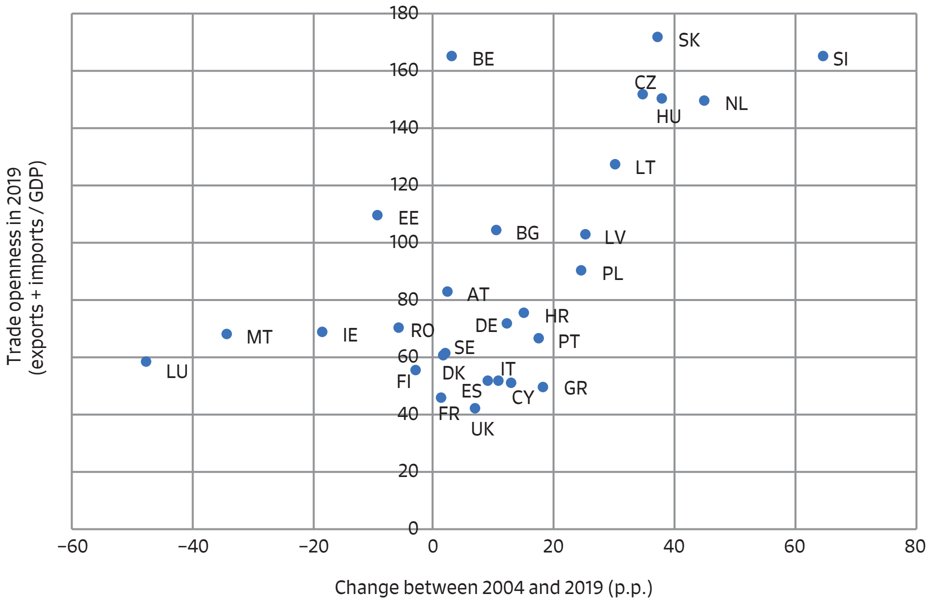
Source: own calculations based on data from Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

5. Trade openness

An important indicator of countries' competitiveness, the index of trade openness (ITO) can present a supplement to the revealed comparative advantage indicator. The index is calculated as the ratio of the country's total trade, the sum of exports and imports, to the GDP, and it measures the country's openness or its integration in the global economy. Its largeness indicates the overall trade of a certain country, the degree of dependence of domestic producers on foreign markets, as well as the degree of dependence of domestic demand for the foreign supply of goods. In 2019, Poland occupied the 11th place among all EU countries in terms of the openness rate for the trade in goods. Nevertheless, the openness rate has been constantly growing since the accession to the EU (in 2004–2019 it increased by 28%), which means that trade has had a larger influence on Polish domestic activities. In the analysed period, trade openness increased in almost all EU Member States, except for Romania, Ireland, Malta, Portugal and Luxembourg whose openness rate decreased by as much as almost 50%. The UK is the country which has the lowest trade openness (which is by about 130 p.p. lower than the openness rate of Slovakia, which has the highest rate of all EU countries). Analysing the values of the openness rate, it can be noticed a certain tendency that in countries, where there is already a high level of trade openness, this index has also increased over the last 15 years (except for Belgium). The most significant growth was recorded in the new EU Member States from the Central and Eastern Europe (CEE), e.g., Slovenia, Hungary, Slovakia, Czechia, Lithuania, Latvia and Poland – by over 20 p.p., and such a growth was recorded only in one Western European country – the Netherlands (Figure 9).

Analysing the whole group of the EU countries, it can be seen that the openness rate is usually greater in the Central and Eastern European (CEE) countries, including Poland, than in the old EU Member States. It can be caused by a few factors. Firstly, the CEE countries are usually smaller states (in terms of the surface area, population and the GDP) than many Western European countries. The openness rate tends to be greater in small countries whose economies are more dependent on international trade. Secondly, the CEE countries tend to be highly dependent on imports of energy resources. For example, Poland has relatively few oil and gas resources and is highly dependent on their imports. Nevertheless, in the last years, Poland has been continuing the diversification of imports of energy resources. The examples are the construction of Świnoujście gas terminal, which can accommodate big gas carrier ships with gas from all the countries of the world (e.g., the USA or Qatar). Another example of the diversification is the planned construction of the Baltic Pipe – the project under which the gas pipeline will be built between Poland, Denmark and Norway to facilitate the imports of Norwegian gas by Poland. However, even the above-mentioned diversification will not reduce the imports of energy resources.

Figure 9. Trade openness of Poland and other EU Member States



AT – Austria, BE – Belgium, BG – Bulgaria, CY – Cyprus, CZ – Czechia, DE – Germany, DK – Denmark, EE – Estonia, ES – Spain, FI – Finland, FR – France, GR – Greece, HR – Croatia, HU – Hungary, IE – Ireland, IT – Italy, LT – Lithuania, LU – Luxembourg, LV – Latvia, MT – Malta, NL – Netherlands, PL – Poland, PT – Portugal, RO – Romania, SE – Sweden, SI – Slovenia, SK – Slovakia, UK – United Kingdom.

Source: own calculations based on data from Eurostat (database *EU trade since 1988 by SITC*, DS-018995).

Similar tendencies are observed in other CEE countries. Thirdly, the next reason of relatively high openness rates of the CEE countries is their relatively large involvement in international supply chains and the exports of parts, components, etc. (as percent of the GDP) – in the CEE countries there are many enterprises that are owned by their foreign partners (due to, among others, mass privatization in the 1990 s). For example, the study by Ambroziak [2018] shows that Germany led to greater integration of the EU new members (excluding the Baltic states) in the global value chains. Moreover, the cited study shows that Germany played a greater role as a supplier of inputs to the CEE exports (backward linkages) than as an exporter of value added originating from the CEE (forward linkages).[5] As the result, the CEE countries (because of their cheaper costs of production) are used as producers and suppliers of manufactured goods for foreign markets (in these countries the value of the RSCA index in exports of manufactured goods is usually greater than zero). For example, car factories in Slovakia and Poland belong to the companies whose headquarters are located abroad, and their output goes primarily to foreign markets.

5 Another study in this area that analyses shares and positions in global value chains of the new EU Member States during the 1995–2009 period was conducted by Folfas [2016].

Conclusions

Poland has a significant share in the intra-EU trade and what is more, this share is increasing; hence, Poland is an important trading partner for the EU Member States. Simultaneously, the trade exchange with the EU is also important for Poland (in 2019, the share of intra-EU28 exports in GDP equalled 35.7%, whereas that of intra-EU28 imports stood at 30.7%). It is worth nothing that since the beginning of the economic crisis period, i.e. since 2009, Poland's trade exchange with the EU has decreased. A downward trend was recorded by 2013 in terms of exports and by 2012 for imports. Afterwards, Poland's intra-EU trade was on the growth path, although recently it has started to fall again. Especially, in the Polish imports, there has been recorded an increase in the share of a few trading partners – Germany, the Netherlands, Belgium and Poland's Southern neighbours – Slovakia and Czechia, and a decrease of many other EU countries, sometimes even quite substantial, e.g., in the case of France and Italy. It may be concluded that Poland is increasing its dependence on specific trading partners, and any trading problems with these partners may have negative consequences for the Polish economy. As far as the intra-EU exports are concerned, Poland focuses on the trade with the neighbouring countries (although the trade volume with Germany has fallen in comparison with the period after the accession to the EU) and the significance of its Southern neighbours – Czechia and Slovakia in Poland's trade exchange has increased.

As the analysis of the RSCA index showed, Poland specialises in intra-EU trade in beverages and tobacco – the commodity group that has been one of the most important commodity groups in Poland's foreign trade, and since 2009 the significance of this group has been systematically increasing. However, the Lafay index indicated that Poland has the greatest comparative advantage in trade in agricultural-food products, in general, although the value of the index has been decreasing over the last 15 years. Nevertheless, both indexes revealed that the significance of trade in beverages and tobacco in Poland's intra-EU trade is constantly growing. Poland also specializes in trade in manufactured products (although the volumes of the Lafay index are much smaller than with of agricultural-food products and beverages and tobacco). Both indexes confirmed that Poland's specialisation is not moving towards trade in more capital-intensive or innovative commodities, rather in basic, labour-intensive ones. Poland, similarly, to other CEE countries, has a relatively high openness rate in comparison to the Western European economies; it belongs to the group of countries that are more dependent on international trade.

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POLAND TOWARDS A NEW APPROACH TO STATE AID POLICY AFTER ACCESSION TO THE EUROPEAN UNION

Abstract

Taking into consideration all changes in the EU law after Poland's accession, one can assume, that directions and scope of public interventions should be similar among the EU Member States. At the same time, it is obvious, that they should take account of financial constraints, starting points and national/government preferences. Therefore, the primary goal of the chapter is to present Poland's performance in the EU in terms of state aid granted after the EU accession. To this end we introduced two indices, which are based on works on trade by distinguished authors: Relative State Aid Intensity Index and State Aid Similarity Index. Our research allows us to formulate two observations: first, that state aid in Poland is subordinated to EU multiannual financial programmes in terms of available/offered financial sources, and second, the structure of state aid offered in Poland does not match the structure of public financial assistance observed in most other EU Member States. Poland still grants mailny regional investment aid, which does not require any sophisticated criteria, and only a small percentage of aid for environmental protection and energy, which would support innovation and, at the same time, is desirable in the face of climate change.

Keywords: European Union, State Aid policy, Competition Policy, subsidies
JEL Classification: H70; F15; H79

Introduction

When Poland became a Member State of the European Union, it had to either follow the EU law or apply transition periods. The competition policy, including state aid policy, was one of the best examples of that [Ambroziak, 2020a]. Nonetheless, each Member

State, including Poland, has some room for manoeuvre to introduce its own instruments of national economic policy. However, there is only one condition: all instruments of economic policy, including these concerning public financial interventions, have to be compatible with the EU law. On the one hand, economic policy is coordinated at the EU level, so governments should be entitled to apply unrestricted instruments to achieve common goals [Kawecka-Wyrzykowska, 2020]. On the other hand, however, the number, scope, and intensity of available measures, including state aid, are substantially limited and have to be set up in conformity with the EU policy goals [Ambroziak, 2017].

Therefore, one can assume that directions and scope of public interventions should be similar across the EU Member States. At this same time, it is obvious, that they should take into account financial constraints, starting points and national/government preferences. Therefore, the primary goal of the chapter is to evaluate Poland's performance in the EU in terms of state aid after the EU accession. To this end we introduce two indexes: Relative State Aid Intensity Index and State Aid Similarity constructed based on works of eminent researchers.

In the first part of the chapter, the concept of state aid policy, including notification requirements and exemptions from them, is presented and discussed. Then, taking into account the aforementioned specificities of state aid rules, which limit and direct financial interventions in the EU Member States, we review the importance of selected categories of state aid in Poland as compared to other EU Member States. To this end, we present the value of state aid granted in Poland in comparison to other EU Member States, as well as in relation to GDP. Moreover, Relative State Aid Intensity Index, developed by the author on the basis of specialisation indices, is introduced. Furthermore, we examine how Poland performs in using administrative facility to ease granting of state aid. Finally, we introduce State Aid Similarity Index to grasp similarities and differences in the structure of state aid by categories between Poland and other EU Member States. At the end, we deliver the conclusions.

1. State aid in the EU: a Member State perspective

State aid understood as public intervention in the market forces is generally forbidden by the EU law. The ban was introduced by virtue of the Treaties establishing the European Coal and Steel Community and the European Economic Community. Both primary European treaties provided for the elimination (or at least substantial reduction) of traditional barriers to trade among the Member States of the European Communities. Their provisions opened the door for the establishing of, in a consecutive order, the customs union in 1968 and the EU Internal Market (a more advanced form of the common market) in 1993, followed by the Eurozone in 1999. All of these subsequent stages of economic integration envisaged the elimination of both traditional (tariffs and quotas) and non-tariff barriers to intra-EU trade. As a result, subsidies and exchange rate operations became the only financial instruments left in the hands of the EU governments to protect the position of their national companies, as well as, to artificially increase their competitiveness vis-à-vis foreign firms. The impact of these instruments on the market got substantially reduced already in the 1970s when the European Monetary System (including exchange rate mechanism) was introduced and finally eliminated with the launching of the Economic and Monetary Union. When it comes to subsidies, on the one hand, one can find a strict provision on public subsidies in the treaties intended to protect a workable competition against unfair government interventions. On the other hand, the EU Member States can still grant state aid to their companies in diverse forms to address various economic and social problems.

On the basis of the Treaty on the Functioning of the European Union "any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market" [Art. 107 of the TFEU]. Together with a broad and long list of obligatory and optional exemptions, it provides EU Member States with a framework of conditions for admissible state aid. As each state aid measure should be notified and verified by the Commission for compliance with the EU principles, the European Commission issued many regulations and guidelines to assist governments in their job, as well as, to facilitate its own work [Ambroziak, Pamuła-Wróbel, Zenc, 2020].

Based on analyses of the EU state aid law one can observe, that the aforementioned treaty rules have not been changed in any way since the beginning of the European integration; what has changed is secondary law, including soft law [Ambroziak, 2017]. Therefore, we can state, that principal rules governing the concept of state aid in the EU are the same in the 2010s as they were in the 1950s. Pursuant to Article 3 of the TFEU, the Union established "the competition rules necessary for the functioning of the internal market". In consequence, the European Commission is the only EU institution which has an exclusive competence to decide on compatibility of a given state aid scheme with the EU law. At this same time, it is authorised to propose, issue, change, amend and withdraw its own binding regulations and non-binding guidelines (soft law) based on its own assessment. Although the Commission conducts consultations before any change is made in the EU legal system, the final decision remains in its hands. In consequence, it assesses the conformity of government state aid schemes with its own legal acts.

As regards the merits of the material EU state aid law, it provides conditions under which financial public interventions granted by governments can be considered in light of Article 107.3 of the TFEU to be compatible with the internal market. The treaty provisions are extremely broad in this field, as they list various state aid categories, without specifying the size of potential beneficiaries, sectors in which they operate, regional locations, specific needs, or effects of intervention. As underlined many times by the European Commission on the occasion of modernising state aid rules, financial interventions from the public sources should target identified market failures, as well as objectives of the common interest [European Commission, 2005, 2012]. With regard to the former, the concept developed on the basis of Bator's work [1958] states that the government can intervene when inefficient allocation of resources occurs in a free market. Then the market (entrepreneurs and customers) fails on the path towards Pareto efficiency. To address market failures and the EU interest, the Commission followed the Treaty provisions on optional exemptions from the general ban and produced special guidelines concerning, i.a. [Article 107.3 TFEU]:

- aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment, and of the regions view of their structural, economic and social situation (Regional State Aid) [European Commission, 1998, 2006c, 2013c];
- aid to promote the execution of an important project of common European interest [European Commission, 2014a] (and aid to remedy a serious disturbance in the economy of a Member State – e.g. the case of COVID-19 pandemic, what is excluded from that research);
- aid to facilitate the development of certain economic activities or of certain economic areas (state aid for research, development and innovation), where such aid does not adversely affect trading conditions to an extent contrary to the common interest [European Commission, 2006a, 2014a], aid for environmental protection and energy [European Commission, 2008a, 2014c], aid to promote risk finance investments [European Commission, 2006b, 2014e].
- aid to promote culture and heritage conservation where such aid does not affect trading conditions and competition in the Union to an extent that is contrary to the common interest.

The aforementioned list of legal acts is not exhaustive as the Commission adopted also guidelines that allow the EU Member States to grant state aid for rescuing and restructuring firms in difficulty [European Commission, 2004, 2014d] and to selected sectors (apart from agriculture, fishery and transport): for films and other audio-visual works [European Commission, 2013a], and for broadband infrastructure [European Commission, 2013b]. Previously there were a number of sectoral state aid rules, however, due to both an overproduction resulting in an inefficiency, and a shift in economic and social policy goals towards green economy, they were abandoned [Ambroziak, 2017].

Besides addressing market failures, the Commission is trying to reduce its own administrative failures. Article 108 of the Treaty requires that "the Commission shall be informed, in sufficient time to enable it to submit its comments, of any plans to grant or alter aid" and "the Member State concerned shall not put its proposed measures into effect until this procedure has resulted in a final decision". The aforementioned provisions, if interpreted literally, mean that each national regulation, law or decision should be notified to the Commission. It would result in a huge burden on the Commission, a pressure for staff increases to be able to deal with all the cases under the control of the Commission, and finally in substantial delays in implementing financial state intervention schemes.

With the increasing awareness about state aid, the number of state aid measures notified to the Commission has grown gradually since the end of the 1990s, especially dramatically after the big enlargement in 2004. That phenomena motivated the Commission to issue general block exemption rules. On the basis of Article 108 of the Treaty, the Council [1998, 2015] empowered the Commission to adopt a regulation on the categories of State aid that may be exempted from the notification procedure [European Commission, 2008b, 2014f]. The General Block Exemption Regulation (GBER) allows not to notify to the Commission state aid schemes which both fulfil all conditions laid down in the regulation and do not exceed the thresholds of admissible state aid. The GBER provides detailed conditions for various categories of permissible aid, including: regional aid, aid to SMEs, aid for research, development and innovation, training aid, aid for disadvantaged workers and for workers with disabilities, aid for environmental protection, aid for broadband infrastructures, aid for culture and heritage conservation, as well as, aid to make good the damage caused by certain natural disasters, social aid for transport for residents of remote regions, aid for sport and multifunctional recreational infrastructures, and aid for local infrastructures. It is no coincidence that the aforementioned list of selected state aid categories is similar to areas that receive financial support from the EU funds. That aspect is crucial to countries which benefit from a large scale of assistance within the EU cohesion policy.

The aforementioned concept of state aid monitoring in the EU has two features important for the EU Member States. Categories and conditions of admissible state aid are in conformity with the concept of market failures: public authorities can intervene when the market is not capable to work properly and/or entrepreneurs are not attracted enough to take economic activities due to too high risk of failure or too expensive entrance costs (e.g., research, development and innovation activities or investment in underdeveloped regions with low quality infrastructure or unskilled labour force). Moreover, the aforementioned approach should reduce unnecessary financial public interventions in the market which, in turn, should lead to ensuring workable competition within the EU Internal Market, as well as reduce pressure on public finances. Bearing in mind that there was no one common economic policy within the EU, but only a coordination mechanism for

28 various policies conducted by European governments, a liberal model of a free competitive market was not shared and accepted by all the EU Member States.

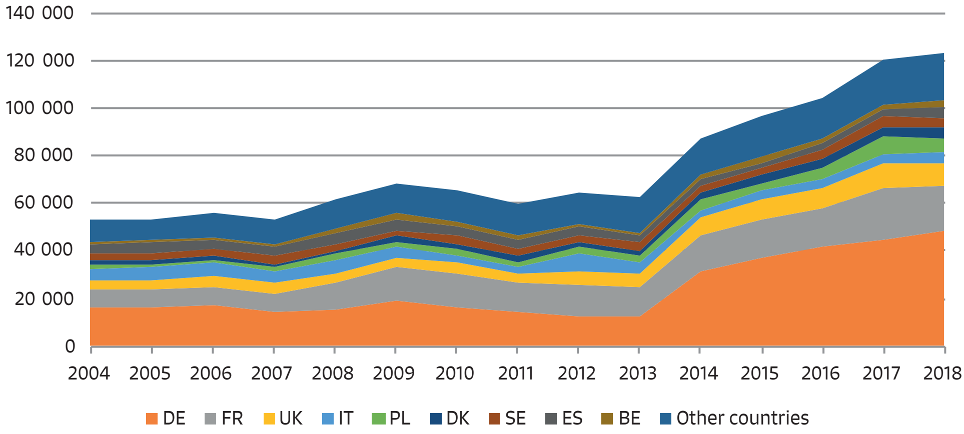
Moreover, it is worth noting that the aforementioned system limits the activities of the EU Member States to those which are compatible with the EU rules in terms of objectives, potential beneficiaries and intensities. In consequence, if a Member State government is not willing to engage in a discussion with the Commission or shares the objectives of the economic policy proposed by the Commission, it prepares a state aid scheme according to a relevant piece of the EU state aid legislation. On one hand, such a system complicates the work of politicians represented in governments, especially those, who would like to see more state presence in the market. On the other hand, it eases public administration work, as thoughtfully planned public interventions, including measures financed from the EU funds, do not need any further discussion and/or negotiation. Unfortunately, in such a situation, an effective spending of EU money sometimes prevails over efficiency. It is much easier to adjust a national programme on EU funds to the European Commission guidelines on state aid in specific areas than to elaborate a completely new programme and notify it under the general Treaty provisions.

2. State aid value

The overall value of state aid granted in the period of 2004–2018 grew up dramatically from EUR 53.3 bn to EUR 123.3 bn (Figure 1). Nonetheless, the increase was not stable and it depended on changes that took place in the biggest state aid donors among the EU Member States, such as substantial increases in Germany in 2014, in Italy in 2012, in Poland in 2008 and 2014, as well as drops in Italy in 2010, 2013 and 2014, and Poland in 2005. As regards the latter, in 2005 the amount of granted state aid almost halved in comparison to 2004 due to huge financial support offered to many Polish companies as a compensation for restructuring processes they had to undergo before joining the EU. In the period under research, the value of public aid in Poland lowered y/y only in 2009, 2015 and 2018. It was the result of substantial increases in state aid granted to companies in Poland in the previous years, when new consecutive financial perspectives were launched or other public interventions were introduced. It means, that the value of state aid was constantly raising in Poland, and potential nominal decreases should be interpreted as a compensation for dramatic increases in the previous years.

In the period under research, Poland was among the top 5 state aid donors within the EU. Its share in overall state aid in the EU ranged from 1.83% in 2005 to 5.79% in 2018, while in Germany from 18.9% to 40.3%, in France from 14.12% to 21.31%, in the United Kingdom from 5.85% to 9.39%, and in Italy from 3.09% to 11.72% (Figure 2). It means, that state aid granted by the biggest donors increased, while the share of smaller countries or those more sceptical towards public intervention in the market decreased.

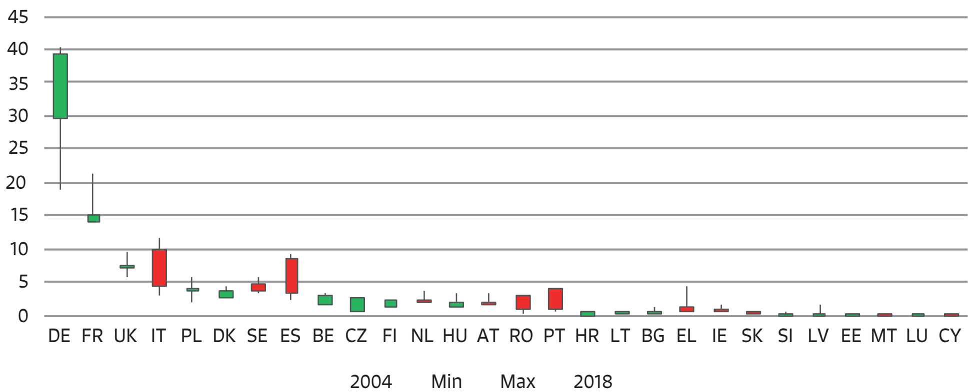
Figure 1. Value of state aid in the biggest state aid donors among the EU Member States in 2004–2018 (mln EUR)



Source: own calculations based on European Commission [2020].

However, it is worth noting that the share of Poland in the EU total state aid did not change substantially over the period 2004–2018, while in Germany it dramatically increased in 2014 and remained relatively constant until 2018, and in the case of Italy it dropped in 2014.

Figure 2. Changes in shares of the EU Member States in total state aid in the EU in 2004–2018 (%)



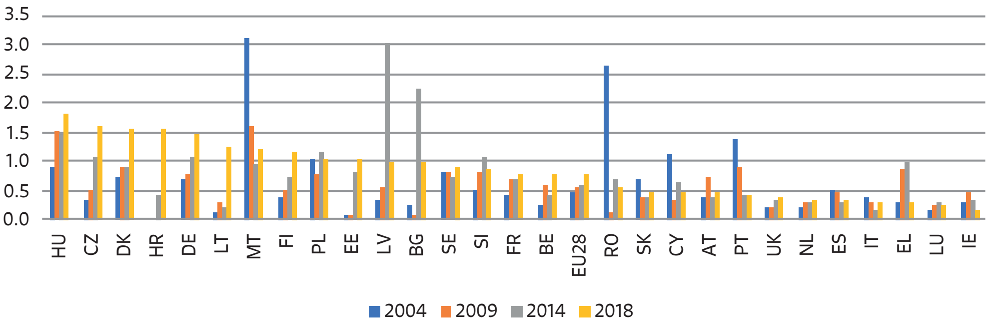
Notes: green bar: an increase; red bar: a decrease.

Source: own calculations based on European Commission [2020].

3. State aid intensity

In order to ensure the comparability of state aid among the EU Member States, the European Commission calculated the value of public support as a percentage of the GDP for all EU countries (Table 3). By using this index we can identify – in a more adequate way – the biggest donors in terms of state aid, as well as, a benchmark of 1% of GDP informally set as the highest acceptable value at the beginning of the 21st century [European Council, 2001, 2005; Ambroziak, 2017]. Immediately after the big enlargement in 2004, the value of state aid in Poland accounted for 1.04% of national GDP, while the average for the EU-25 at that time was 0.48%. In the case of Poland, in the period under research, the index fluctuated rather substantially: in 2005 it dropped to 0.39% (below the EU average) and after the financial crisis of 2008–2010, decreased from 0.8% to 0.58%, while it increased in 2007–2009 and 2014–2017 at the beginning of both Multiannual Financial Perspectives and in 2018 noted 1.03%. It means that since the EU accession, state aid in Poland relied heavily on EU funds, being the biggest net beneficiary of them. The highest percentage of public assistance to national GDP was observed in Hungary (1.8%), Czechia (1.6%), Denmark (1.6%), Croatia (1.5%) and Germany (1.4%) in 2018.

Figure 3. State aid in the EU Member States in 2004–2018 (% of GDP)



Source: own calculations based on European Commission [2020].

The above presented well-known index (published regularly by the Commission in its State Aid Scoreboard) has two weaknesses which derive from both the concept of GDP and the absence of reference to the EU average. Therefore, we developed a new index seeking to address the aforementioned issues. To this end, instead of the value of Gross Domestic Product expressed in current prices we applied the Gross Value Added, which measures the total output and income in the economy (the total value of goods and services after deducting costs of inputs and raw materials). It is the sum of a country's GDP and net of subsidies and taxes in the economy. Moreover, we excluded from our calculations of the total value added data concerning sectors eligible to receive specific state aid under special regimes, which are not under our investigation. These sectors are: agriculture, forestry and fishing, transportation, financial and insurance activities, public administration and defence, compulsory social security, education, human health and social work activities, as well as arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies. Therefore, our index takes into account data concerning value added in mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply, construction services, wholesale and retail trade; repair of motor vehicles and motorcycles, storage (warehousing), accommodation and food service activities, information and communication, real estate activities, professional, scientific and technical activities, administrative and support service activities. We are aware of the fact that public subsidies to agriculture can influence the outcomes of other sectors. Also, public support to any manufacturing industry which improves its competitiveness, may lead to an increase in transport activities. However, we decided to focus only on sectors allowed to directly receive state aid on general rules.

Apart from the above presented simple statistical analysis, we decided to introduce a new index: a Relative State Aid Intensity Index (RSAI), based on a well-known Balassa's [1965] Revealed Comparative Advantage (RCA) index. While the RCA measures a country's exports of a commodity in relation to its total exports and to the corresponding export performance of a group of exporters to the same market, RSAI is calculated as a relationship between the value of state aid in either, given EU Member State or the EU and value added of selected sectors in a given EU Member State or the EU. As the standard RCA represents a relative specialization in trade in a given product in comparison to a control group of countries, our RSAI informs about relative intensity of state aid in a given country compared to an average intensity of a given category of public aid in the European Union. The RCA formula is as follows:

$$RCA_j^i = \left(\frac{x_j^i}{\sum x_j^i} \right) / \left(\frac{x_j^G}{\sum x_j^G} \right) \tag{1}$$

where:

x_j^i – value of exports of goods *j* of a country *i* to a reference group of countries,

x_j^G – value of exports of goods *j* of all countries within a reference group.

It is worth noting that a standard RCA is non-symmetric (values only above 0 with the neutral point at 1), therefore many researchers used to apply the Revealed Symmetric Comparative Advantage (RSCA) index proposed by Laursen [1998] with the following formula:

$$RSCA = \left(RCA_j^i - 1 \right) / \left(RCA_j^i + 1 \right) \tag{2}$$

Accordingly, in order to ensure that the output of our calculation of the Relative State Aid Intensity Index is symmetric, we applied the aforementioned Laursen approach which allowed us to construct the final formula:

$$RSAI_i = \left(\left(\frac{x_i}{v_i}\right) / \left(\frac{X_{EU}}{V_{EU}}\right) - 1\right) / \left(\left(\frac{x_i}{v_i}\right) / \left(\frac{X_{EU}}{V_{EU}}\right) + 1\right) \tag{3}$$

where:
x_i – value of state aid in a country *i*,
v_i – value added of a country *i*,
X_{EU} – value of state aid in the EU,
V_{EU} – value added of the EU.

When the final value of RSAI is above 0, it means that state aid intensity in a given country in relation to gross value added is higher than for the EU average, while, when it is below 0, it means that the intensity is lower than at the EU level. We have taken into consideration the EU average to compare a situation in all EU Member States.

In the first 3 years after the big enlargement in 2004, Poland recorded RSAI close to 0 which means that state aid intensity was at that time close to the EU average (Table 1). The highest values were reported for Malta, Hungary, Portugal, Sweden, Denmark and Germany, while the lowest for Estonia, Luxembourg, Lithuania, the United Kingdom and the Netherlands. It is worth stressing that the above-mentioned list does not correspond to the ranking order of the EU Member States based on absolute values of public assistance granted to entrepreneurs (Figure 1). As consecutive Multiannual Financial Perspectives launched provided for new support, RSAI for then new EU Member States, including Poland, raised much above the EU average. It is worth noting that among the leaders of state aid intensity we can find Sweden and Denmark. One explanation of these positions is a relatively low value added in both countries of sectors selected for this research, which increases the overall value of the index. The other one is the long term national financial support granted to companies for employment-related projects [Ambroziak, 2020b]. A sharp increase in state aid intensity in Poland was observed in 2014 and, after a slight drop, again in 2017. Nonetheless, it was much lower than in Germany and some Central and Eastern European countries. However, the aforementioned data confirm that the majority of state aid granted in Poland is directly linked to the EU funds made available within consecutive Multiannual Financial Perspectives.

Considering the above-mentioned, facts we can observe that the matrix of relative state aid intensity index in the EU Member States meaningly changed in the period of 2004–2018 (Figure 4). The biggest increase in RSAI was observed in Estonia, Lithuania, and Czechia, while the biggest decrease in Portugal, Cyprus, and Malta. It is worth noting that Poland, although reported a drop in 2018 in comparison to 2004, retained its position above the middle of the list of the EU Member States in terms of state aid intensity. A significant decrease after 2004 was due to the extraordinary increase just before (in 2003 and 2004) Poland's accession to the EU in public interventions in selected sectors (especially those during the restructuring processes). Parallelly, an important increase of RSAI is linked to 2014–2020 financial perspective and co-financing of EU programmes by national budgets.

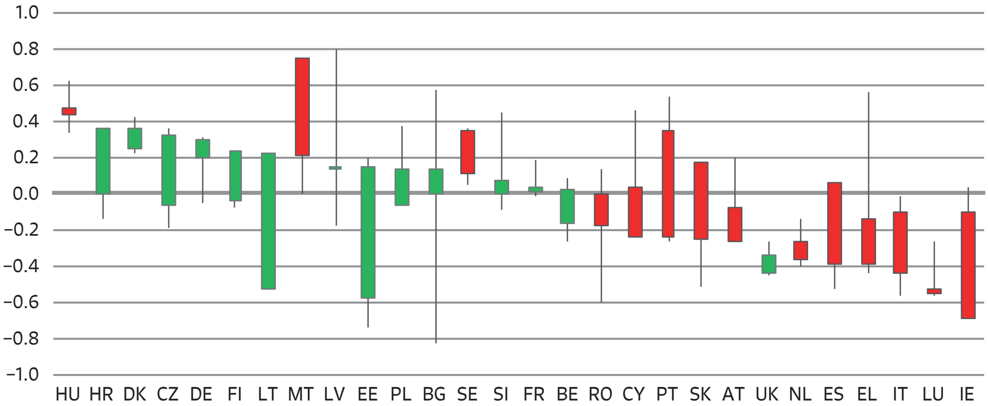
Table 1. Relative State Aid Intensity Index (RSAI)

Member States	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HU	0.34	0.47	0.48	0.46	0.62	0.49	0.59	0.37	0.35	0.47	0.44	0.34	0.53	0.54	0.43
HR										−0.12	−0.14	−0.02	0.21	0.25	0.36
DK	0.25	0.25	0.22	0.30	0.24	0.28	0.28	0.36	0.37	0.37	0.22	0.33	0.41	0.34	0.35
CZ	−0.19	−0.07	0.03	0.14	0.17	−0.05	0.07	0.23	0.27	0.35	0.23	0.27	0.28	0.26	0.32
DE	0.17	0.20	0.20	0.14	0.10	0.17	0.10	0.06	−0.05	−0.03	0.26	0.30	0.31	0.27	0.29
FI	−0.08	−0.04	−0.04	−0.02	−0.01	−0.02	−0.02	0.21	0.14	0.23	0.13	0.12	0.09	0.06	0.23
LT	−0.53	−0.53	−0.37	−0.41	−0.51	−0.29	−0.26	−0.08	−0.11	−0.20	−0.50	0.10	0.07	0.16	0.22
MT	0.74	0.74	0.67	0.66	0.56	0.49	0.36	0.50	0.49	0.55	0.20	0.16	0.00	0.15	0.21
LV	−0.18	0.13	0.11	0.62	0.03	−0.01	0.24	0.40	0.80	0.67	0.66	0.67	0.55	0.37	0.14
EE	−0.69	−0.58	−0.71	−0.73	−0.68	−0.74	−0.65	−0.38	−0.30	0.10	0.14	0.19	0.07	0.12	0.14
PL	**0.37**	**−0.07**	**0.00**	**0.02**	**0.23**	**0.16**	**0.22**	**0.12**	**0.09**	**0.11**	**0.30**	**0.09**	**0.20**	**0.31**	**0.13**
BG				−0.64	−0.83	−0.75	−0.82	0.28	0.26	0.39	0.57	0.36	0.30	0.26	0.13
SE	0.27	0.34	0.33	0.36	0.29	0.21	0.22	0.26	0.23	0.26	0.11	0.05	0.08	0.10	0.10
SI	0.04	−0.01	0.01	−0.09	−0.02	0.19	0.23	0.40	0.40	0.44	0.28	0.27	0.08	0.05	0.07
FR	−0.02	0.01	0.01	0.04	0.12	0.13	0.17	0.16	0.18	0.14	0.06	0.08	0.02	0.12	0.04
BE	−0.27	−0.17	−0.11	0.00	−0.05	0.06	0.09	−0.01	−0.11	−0.08	−0.19	−0.14	−0.07	−0.20	0.02
RO				−0.17	−0.40	−0.61	−0.54	−0.22	−0.03	0.13	0.05	0.07	−0.06	−0.23	−0.19
CY	0.43	0.46	0.03	0.11	−0.01	−0.18	−0.01	0.16	0.03	0.21	0.03	0.04	−0.03	−0.18	−0.24
PT	0.51	0.35	0.34	0.53	0.35	0.28	0.27	0.34	0.06	−0.24	−0.16	−0.12	−0.27	−0.18	−0.25
SK	0.15	0.17	0.02	0.01	−0.02	−0.20	−0.20	−0.36	−0.52	−0.33	−0.25	−0.14	−0.24	−0.46	−0.26
AT	−0.09	−0.09	0.19	−0.07	−0.02	0.13	0.07	0.03	0.04	0.05	−0.23	−0.12	−0.16	−0.23	−0.26
UK	−0.43	−0.44	−0.45	−0.34	−0.40	−0.42	−0.34	−0.34	−0.31	−0.27	−0.30	−0.32	−0.30	−0.29	−0.35
NL	−0.33	−0.27	−0.22	−0.24	−0.28	−0.29	−0.21	−0.15	−0.22	−0.24	−0.33	−0.38	−0.36	−0.40	−0.37
ES	0.04	0.06	−0.09	−0.05	−0.06	−0.11	−0.12	−0.13	−0.22	−0.29	−0.38	−0.51	−0.53	−0.50	−0.40
EL	−0.20	−0.15	−0.12	−0.07	0.17	0.24	0.24	0.45	0.31	0.56	0.26	0.38	−0.16	−0.44	−0.40
IT	−0.15	−0.10	−0.08	−0.18	−0.21	−0.31	−0.46	−0.45	−0.02	−0.22	−0.55	−0.57	−0.57	−0.54	−0.44
LU	−0.53	−0.53	−0.57	−0.54	−0.55	−0.38	−0.48	−0.42	−0.50	−0.27	−0.36	−0.34	−0.39	−0.53	−0.55
IE	−0.27	−0.10	−0.04	−0.02	0.00	−0.10	0.04	−0.09	−0.23	0.00	−0.34	−0.65	−0.69	−0.67	−0.70

Note: green background: higher values (closer to +1), yellow background: values close to 0, red background: lower values (closer to −1).

Source: own calculations based on European Commission [2020].

Figure 4. Changes in Revealed State Aid Intensity Index in 2004–2018 in the EU Member States



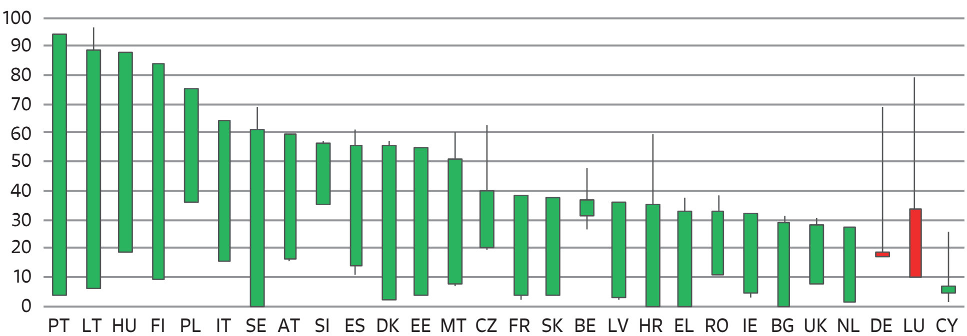
Notes: green bar: an increase; red bar: a decrease.

Source: own calculations based on European Commission [2020].

4. GBER and State aid structure

State aid granted under the GBER had its own pros and cons. On the one hand, granted aid did not have to be notified to the Commission, as it fulfilled the requirements provided by the respective GBER. On the other hand, it limited governments in making financial interventions in the market in terms of the overall volume, potential beneficiary companies or intensity. In 2018, Poland was among five countries of the EU28 using GBER the often (with Portugal, Lithuania, Hungary, and Finland). Value-wise, it granted over 75% of state aid within the GBER framework in 2018. It means, that only ¼ of state aid approved in Poland was outside the GBER framework (Figure 5).

Figure 5. Share of state aid granted under GBER in total state aid granted in 2004–2018 (%)

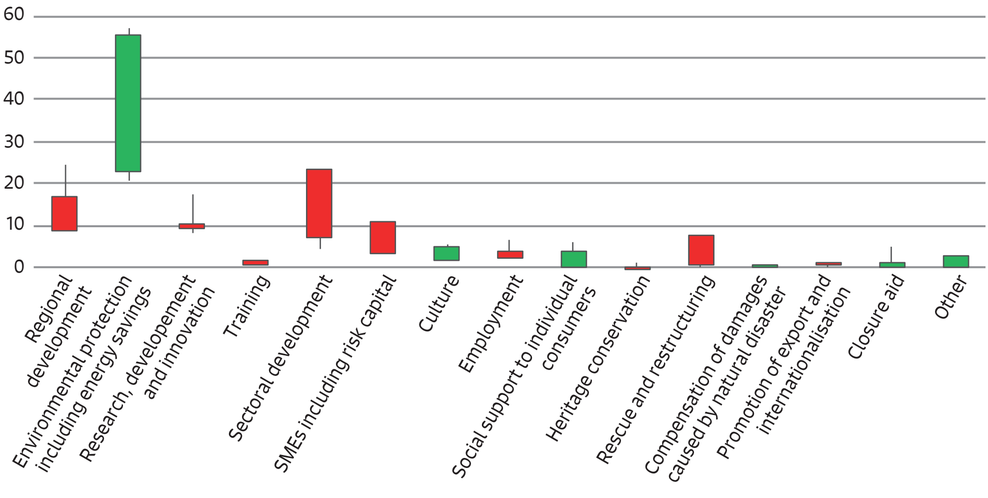


Notes: green bar: an increase; red bar: a decrease.

Source: own calculations based on European Commission [2020].

One could argue that Poland's approach to the GBER was a signpost for modern state aid. However, there are, at least, two additional questions. First, why Poland has followed the EU targets and instruments, while other EU Member States (for example Germany) have recorded much lower share of state aid granted under the GBER in relation to the total value of public interventions in 2018. Second, do categories of state aid granted in Poland (especially within the GBER) fit modern economy purposes?

Figure 6. Changes in shares of selected state aid categories in the EU in 2004–2018 (%)



Red bar – a decrease; green bar – an increase.

Source: own calculations based on European Commission [2020].

Apart from the nominal and relative value of state aid granted in Poland in comparison to other EU Member States, the structure of financial interventions is a next key element in its assessment. Taking into account that state aid rules were elaborated in the EU as a framework for financial support to entrepreneurs in order to achieve some political objectives, while ensuring workable competition within the EU Internal Market. The latter was guaranteed as state aid rules were based on the concept of market failures [Ambroziak, 2017]. Consequently, EU state aid rules provided regulations and guidelines on conditions of admissibility of different public support categories recognised as less harmful for competition. Therefore, the Commission worked out a set of rules concerning regional, horizontal, and sectoral state aid. Since the latter resulted in the overproduction in the 1970s and 1980s, economic inefficiency and high costs to the public budget keeping alive enterprises struggling with over-employment, inadequate structure of production, as well as, bad management, they were finally withdrawn in the 1990s. Nowadays, after many years of slow, but systematic changes, EU state aid rules allow mostly horizontal and regional public aid. In the period of 2004–2018, the structure of state aid in terms of categories changed substantially (Figure 6). The leading category due to the biggest increase in the share of the total state aid value was environmental protection, including energy savings (of horizontal character). Already in 2004 it amounted to 22.6% of state aid in the EU, however a sharp raise was observed in 2014 and 2015, when it doubled its percentage share. It seems that one can find a relationship between the aforementioned substantial increase and Financial Perspective for 2014–2020. At the same time, all other leading state aid categories recorded a drop in their importance: sectoral and regional development, as well as, research, development and innovation.

To map Poland's position vis-à-vis other EU Member States in terms of state aid objectives, we introduced a similarity index based on Finger and Kreinin measure [1979]. Although the authors applied this index to a structure of exports, we use it to assess similarity between structures of state aid in the EU Member States. The formula of state aid similarity index (SASI) is as follows:

$$SASI_j^i = \left\{ \sum_i \min\left[X_j^i, X_{EU}^i \right] \right\} 100 \tag{4}$$

where:

X_j^i – represents a share of category *i* in total state aid in *j* EU Member State,
X_{EU}^i – represents a share of category *i* in total state aid in the European Union.

The SASI range is between 0%, indicating the lack of similarity of state aid structure by categories, to 100% representing the structure identical to the EU total average. In 2018, Poland recorded only 56.5% of the EU level and belonged to the group of countries with the least similar state aid structure to the EU (Spain, Croatia, Latvia, Hungary, Malta, and Portugal). A common pattern of those countries was a relatively low share of state aid for the environment and energy efficiency in their total state aid landscape. On the other end of the ranking there were many countries (Czechia – 83.9%, Ireland – 80.8%, Netherlands – 79.8%), who ranked extremely high in the aforementioned state aid category (Table 2).

After the big enlargement Germany, Finland, United Kingdom and France were the leaders in setting up the EU benchmark in state aid structure. Subsequent multiannual financial perspectives, especially the one for 2014–2020, modified this situation. They shifted the leadership towards countries which decided to offer financial assistance mostly to entrepreneurs encouraging them to investments in the environmental protection and energy efficiency (Figure 7). Unfortunately, Poland belonged to a group of countries lagging in this sphere (Figure 8).

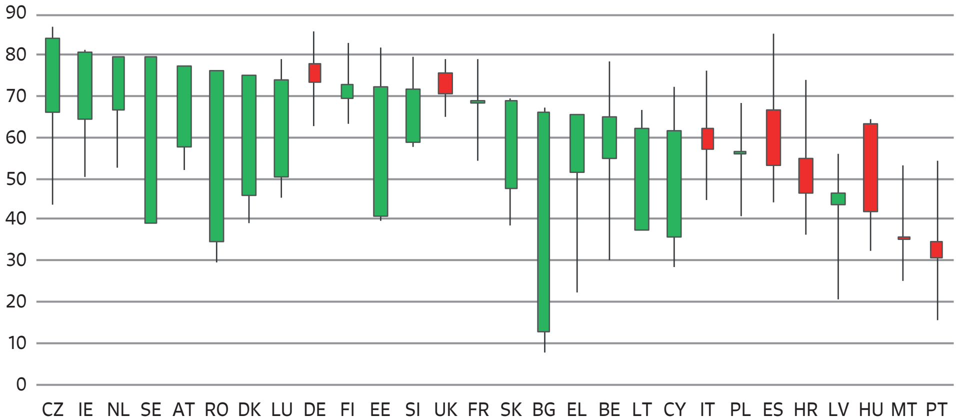
Table 2. Similarity of state aid structure in 2018 (%)

Member States	Structure of state aid (broken down by categories)							
	Regional development	Environmental protection and energy savings	Research, development, innovation	Sectoral development	SMEs and risk capital	Culture	Employment	Other
EU	8.7	55.2	9.2	6.9	3.1	5.0	2.0	9.3
CZ	17.1	58.3	13.8	0.9	0.1	3.3	0.01	6.5
IE	12.7	62.8	14.6	0.02	1.5	5.1		0.6
NL	0.7	63.8	11.3	9.9	1.9	8.4	0.04	0.4
SE	4.2	70.9	3.7	5.1	0.5	1.2	0.1	14.2
AT	1.7	68.8	15.8	1.9	5.5	4.3		1.3
RO	21.8	66.0	3.4	3.2	0.1	0.6		4.9
DK	0.3	64.1	3.7	8.4	0.6	1.5	16.6	4.7
LU	4.5	65.7	4.5	0.4	18.6	5.0		1.3
DE	2.0	81.4	3.4	7.4	1.7	1.2		2.8
FI	2.9	49.1	36.1	3.7	2.1	1.5	2.3	2.3
EE	4.2	59.4	5.0	2.5	0.1	28.8	0.04	0.0
SI	7.7	45.3	13.9	0.1	1.2	2.7	25.5	3.1
UK	2.7	47.6	20.6	0.05	13.9	11.9	0.03	2.8
FR	17.2	27.8%	9.3	14.8	2.0	8.2	0.02	20.7
SK	31.7	41.0	4.4	0.02		6.0	0.4	16.5
BG	21.4	76.6	0.5			1.1	0.3	0.1
EL	24.4	34.0	1.8	16.7	2.1	0.8	2.2	18.0
BE	4.1	31.9	31.6	5.3	2.3	16.3	3.0	4.6
LT	13.3	31.5	3.8	2.1	1.1	34.3	5.4	7.6
CY	1.6	42.8	3.8	15.7	1.0	34.6		0.1
IT	20.8	16.0	13.2	3.2	10.1	9.7	5.9	16.4
PL	**26.0**	**19.6**	**16.0**	**3.4**	**1.1**	**3.0**	**15.6**	**15.2**
ES	5.5	17.3	9.0	3.0	1.7	5.3	2.1	55.9
HR	18.3	18.8	0.6	2.7	1.8	3.8	0.5	48.6
LV	10.7	20.3	4.2	58.1	0.6	2.7		2.8
HU	44.9	10.8	14.7	1.9	3.0	17.8	5.8	0.6
MT	13.4	1.0	0.1	23.1	2.2	16.1	1.4	42.2
PT	58.0	0.6	10.1	4.0	20.0	0.02	4.4	2.8

Note: green background: higher values (closer to +1), yellow background: values close to 0, red background: lower values (closer to −1).

Source: own calculations based on European Commission [2020].

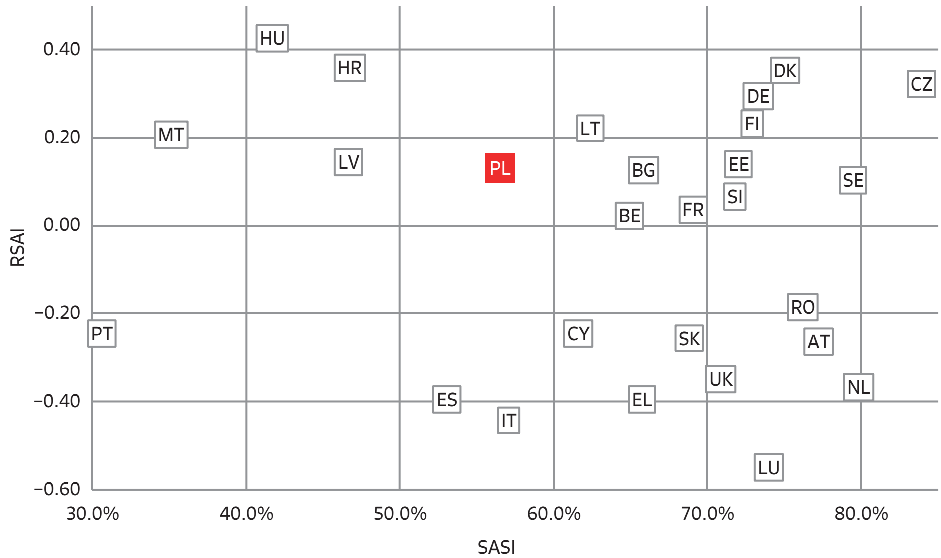
Figure 7. Changes in State Aid Similarity Index in EU Member States in 2004–2018 (%)



Notes: green bar: an increase; red bar: a decrease.

Source: own calculations based on European Commission [2020].

Figure 8. Matrix of RSAI and SASI in 2018 in the EU Member States as compared to Poland



Source: own calculations based on European Commission [2020].

From the beginning of its EU membership Poland, similarly to other then new Member States, granted mostly regional state aid for some important reasons. First, regional state aid supported investment in less developed areas, which could be found predominantly in Poland and in other Central and Eastern European countries. Second, regional state aid required meeting not complicated conditions, except for the two cases when it was granted for investment and creation of new jobs. Those factors were particularly important after the EU accession, when the unemployment rate was high and poorer regions (and sometimes all the country) lagged behind the EU average. It resulted in a substantial increase of the share of regional support in total state aid in Poland up to 26% (17.3 percentage points above the EU average). Similar state aid was granted for employment the share of which decreased, particularly in 2014, however, it remains much above (13.5 percentage points) the EU average and amounts to 15.6% (Table 3).

Table 3. Difference in state aid structure by objectives in Poland in comparison to the EU28 average in 2004–2018

Member States	Environmental protection including energy savings	Research and development including innovation	Regional development	Sectoral development	Culture	Social support to individual consumers	SMEs including risk capital	Employment	Closure aid	Training	Rescue and restructuring	Heritage conservation
Difference in percentage points												
2004	−22.1	−9.4	−7.4	−4.8		0.1	−10.4	8.0		−1.5	49.3	0.5
2005	−24.1	−7.2	1.8	5.7		0.2	−2.4	25.6		1.1	1.0	2.1
2006	−24.8	−9.7	13.1	−1.9		0.2	−3.2	27.2		2.8	−1.6	1.2
2007	−23.0	−11.9	3.6	−6.2		−1.5	3.4	31.0		3.3	3.1	1.5
2008	−11.7	−13.7	−2.9	12.8		−1.4	−8.6	22.4		−0.6	6.3	0.7
2009	−8.7	−14.8	−2.0	14.2		−1.6	−8.3	21.6		2.4	−0.2	0.5
2010	−8.6	−14.5	3.7	5.5	1.5	−3.2	−5.8	20.6		0.6	0.9	0.3
2011	−14.8	−16.0	2.6	20.4	−3.2	−5.7	−6.0	25.6		3.2	−0.9	0.3
2012	−22.6	−10.8	11.7	13.3		−5.0	−6.0	27.3		1.5	−2.9	0.4
2013	−25.3	−11.6	14.6	13.2		−5.3	−5.6	29.6	−2.5	2.0	−4.1	0.5
2014	−23.1	−5.3	22.6	8.1	−3.3	−6.1	−4.2	12.3	−1.2	−0.3	1.8	−0.1
2015	−21.4	−3.5	9.6	12.7	−4.9	−5.9		18.1	1.9	−0.8		0.6
2016	−33.8	−0.2	19.8	9.6	−3.9	−3.8	−4.1	13.1	4.5	−0.5		0.4
2017	−35.0	8.7	18.5	2.0	−0.6	−3.3	−2.5	8.9	4.3	−0.4		0.3
2018	−35.6	6.8	17.3	−3.5	−2.0	−3.7	−2.0	13.5	0.5	−0.5		0.4

Note: green background: higher values, white background: values close to 0, red background: lower values (closer to −1).

Source: own calculations based on European Commission [2020].

As regards state aid for research, development and innovation activities, its position in the budget of Polish state aid substantially increased from 1.2% in 2004 to 16.0% in 2017 and 2018. It can confirm increases in public spending on new technologies, however, it is hard to provide evidence that Poland's performance in innovation has improved

(Innovation Scoreboard). Moreover, it should be noted that an increase in the share of state aid for R&D&I in Poland was accompanied by a decrease in the importance of that public support category in the EU (from 17.2% in 2012 to 9.2% in 2018).

On top of that, the EU observed fast and sharp increases in percentage of state aid for environment and energy saving (which doubled in 2014 and amounted to 55.2% in 2018), while in Poland it reached only 19.2%. It should be admitted that immediately after the EU accession it represented less than 1% of the total state aid in Poland, nevertheless, the current index shows that the country is still lagging in comparison to the EU standards [Ambroziak, 2020b].

Conclusions

Although rules concerning state aid admissibility in the EU are unified, Member States use them in different way. Therefore, directions and scope of public interventions clearly differ across the EU Member States, including Poland. Even though, we have not validated this assumption in our study, we can assume that it derives from differences in financial constraints, starting points, political government preferences, as well as economic policy choices.

Considering the Relative State Aid Intensity Index, based on Balassa's RCA, we can state that Poland substantially increased government interventions after the EU accession. Based on data available for 2004–2018, we can see that substantial raises in RSAI were observed in the second and third year of consecutive multiannual financial frameworks 2007–2013 and 2014–2020. It allows us to formulate a conclusion that structural funds offered to companies from the EU budget have had a tremendous impact on state aid value in Poland. Furthermore, it means that national programmes and schemes did not matter as much as the EU funds. Likewise, it also means that Poland did not implement its own ideas for the long-term use of state aid that would substantially deviate from the EU programmes focused on market failures identified by the Commission. A similar situation was observed in other Central and Eastern European Countries which joined the EU in 2004 and later.

As regards similarity to other EU Member States in terms of state aid objectives, State Aid Similarity Index for Poland is close to indices for Italy, France, Slovakia, Greece, Hungary, Slovenia, and Czechia. It should be noted that still, state aid for environmental protection and energy saving is substantially lower in comparison to other EU Member States.

The aforementioned conclusions boil down to two final remarks: first, that state aid in Poland is subordinated to multiannual financial programmes in terms of available/offered financial funds and second that state aid projects in Poland do not match much the average pattern of state aid in the EU Member States. Poland still grants mailny regional investment aid, which does not require any sophisticated criteria, and only a small percentage of aid for environmental protection and energy, which would support innovation and, at the same time, is desirable in the face of climate change.

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EFFECT OF COVID-19 CRISIS ON LABOUR MIGRATION: THE POLISH CASE

Abstract

The impact of economic crises on labour migration has been widely discussed in migration literature. It has been proven that during economic downturns many potential migrants tend to postpone their decisions, which often leads to a decrease in global migration flows. However, it seems that potential consequences of COVID-19 for labour migration might differ from any other crisis of economic origin. This difference stems from the different nature of COVID-19 crisis because of its exogenous character to financial system, as well as to its consequences, reaching far beyond economy.

This chapter presents an analysis of potential repercussions of COVID-19 crisis for Poland as a member state of the European Union, in terms of international and internal labour migration. It also addresses the problem of temporary and seasonal migrants, who seem to be the most affected by this pandemic.

It is claimed that while the crisis is likely to result in hampering international migration flows, it is also likely to accelerate the internal migrations. Furthermore, it is also claimed that imposing any barriers in an international labour mobility might cause labour supply shortages in Polish agricultural sector in the forthcoming years.

Keywords: COVID-19 pandemic, international migration, internal migration, seasonal workers, Poland
JEL Classification: F22; K37; R23

Introduction

Although many studies analysed labour migration in times of economic crisis, especially following the 2008 subprime mortgage crisis [see: Kim, 2010; Koehler et al., 2010; Castles, Vezzoli, 2009, pp. 68–74; Papademetriou et al., 2010; Beets, Willekens, 2009, pp. 19–37], and also those focused specifically or partially on the migrant workers from the Eastern Europe [e.g. Herm, Poulain, 2012; Zaiceva, Zimmermann, 2013], the long-term effects of economic downturns on migration are believed to be *complex and hard to predict* [Castles, Vezzoli, 2009].

It is acknowledged that economic crises affect labour migration and that the short-term effects of this impact are likely to be observed. During the crisis, some of the international migrants who lose jobs either move to grey zone or return to their home countries. In the latter case, even if the return is temporary, it relieves the economy of the destination country and prevents immigrants from being a burden to the destination countries' social welfare systems. Also, it is proven that some potential migrants postpone their migration decisions, and that migration flows generally decrease during economic downturns.

It is not surprising that potential consequences of the 2020 pandemic are often analysed through the lens of the aftermath of the 2008 subprime mortgage crisis. However, the COVID-19 crisis is different than any crisis of 20th and 21st century. Even though COVID-19 is truly global crisis, as it was the case with the subprime mortgage crisis of 2008, the main difference lies in the genesis of these two crises: the mortgage subprime crisis of 2008 was an endogenous crisis, while the COVID-19 crisis is an exogenous shock [Danielsson et al., 2008]. Unfortunately, when this paper was written the question whether this exogenous shock would be absorbed by financial systems remains unanswered.

In 2020, different dimensions of the pandemic's impact on Polish economy were analysed. However, there were no papers analysing its potential impact on migration in a holistic manner. This shortcoming needs to be addressed for numerous reasons. Firstly, because international migration flows were heavily affected by administrative decisions of governments. Different Schengen area countries restored the border controls and imposed limitations on international mobility, depending on their infection rates. These limitations were achieved by, e.g., imposing cross-country mobility barriers and/or by introducing obligatory quarantine. These barriers not only affected potential permanent migrants, but they also hampered migrations of temporary and seasonal workers, which resulted in serious labour shortages – especially in agriculture and tourism business sectors.

Moreover, historical data analysis reveals that economic slowdowns resulted in a decrease in migration flows, and this is also to be expected in case of the COVID-19 pandemic – especially considering its global character. Hence, the crisis is believed to have already affected Polish immigration and emigration rates. It might have impacted return migrations of Polish emigrants, as well as Ukrainians' and Belarusians' return migrations from Poland to their home countries. Also, emigration from Poland is more than likely to be limited during the COVID-19 pandemic period compared to previous years.

Finally, the COVID-19 pandemic might cause more rapid deurbanisation. Internal migration from densely populated areas to city's outskirts or even further into the rural areas might be observed, as people would fear the next waves of the pandemic. Families, after being subject to compulsory quarantine in cities, will look to settle in cites outskirts or sometimes even to move to the countryside.

The research aim of this paper is to predict potential consequences of the COVID-19 pandemic in the area of migration for Poland as an EU member state. This is achieved by analysing data and research outcomes of previous economic downturns, as well as some of the most recent trends and forecasts. However, it must be emphasized that this paper was prepared while the pandemic has not yet ended, hence data sources were most times predictive statistics, first drafts of working papers, as well as articles in quality media and the Polish Press Agency.

1. Poland's international labour migration during economic crises

It has been proven that migration volumes decrease during and following the economic crises [Koehler et al., 2010; Castles, Vezzoli, 2009].

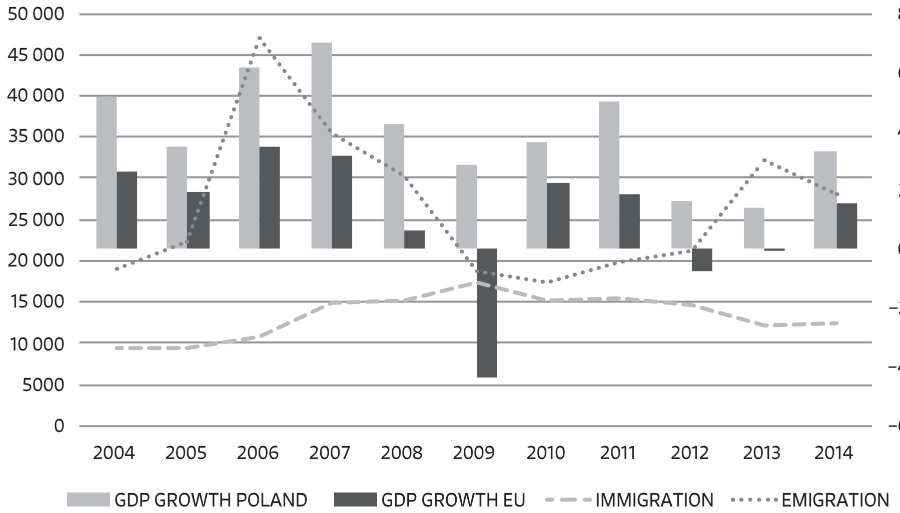
According to migration theory, during economic downturns, developed countries, that serve as destinations for migrants, should face the outflow of migrants (net emigration). This happens as some migrants, who lose their jobs because of the crisis, return to their countries of origin, causing the migration balance in the latter to reverse. In neoclassical approach, this mechanism should restore equilibrium on the labour market and relieve the economy, allowing for restoring demand for workforce in a relatively short period. In case of Poland, this assumption is supported by empirical data.

Emigration from Poland boomed after Poland's EU accession in 2004. The target country for the majority of Polish emigrants during the period directly following the Poland's accession to the EU was the United Kingdom – one of three countries (with Ireland and Sweden), which did not impose transitional periods for opening their labour markets for citizens of the new member states, and the one with the largest economy, which translated into job opportunities [Schwabe, 2014]. As shown on the Figure 1, emigration from Poland increased in the post-accession period to reach its peak in 2006.

Then, as the first symptoms of the crisis became visible in 2007 and the threat of economic crisis widespread, the return migrations to Poland began.

The official migration statistics reveal that while the immigration to most of the EU countries decreased because of the subprime mortgage crisis of 2008, immigration to Poland increased compared to previous years. Also, in the analysed period, emigration from Poland decreased. Although Poland recorded a negative net migration balance in 2009, its value was the lowest in absolute terms since 1990. Analysis of immigrant population in Poland in that year revealed that 90% of those who immigrated to Poland after the crisis' outburst were Polish citizens (of which 65% was Polish born) and declared willingness to stay in Poland permanently. This shows that although the importance of return migrations is often neglected, their share in total migration flows during economic downturns can be substantial – at least for some countries.

Figure 1. Polish migration flows vs. GDP growth in Poland and the EU in 2004–2014



Source: own calculations based on Eurostat [2020a] and Statistics Poland [2017b].

During the 2008 crisis, Poland became a popular migration target also for foreigners: 90% of temporary immigrants of that period were foreign-born. Moreover, 18% increase in immigration volume in the latter category compared to the previous year was observed [Matkowska, 2011]. The reason behind this attractiveness was that Poland performed relatively well during the subprime mortgage crisis. In 2009, according to Eurostat data, Poland was the only EU country with positive GDP growth, and was considered to be the least affected economy by the subprime mortgage crisis [Eurostat, 2020a].

Additional insights regarding Poland's immigrant population of that period are provided by two empirical studies. The first was a survey conducted among the Polish emigrant population by Money.pl [Dwornik, 2008] at the end of 2008. The survey results revealed that over half of surveyed emigrants planned to return to Poland at some point of time, and 22% planned to return to Poland by the end of 2009 – i.e., within one year from the time the survey was conducted. What is even more interesting, over 60% of respondents who declared returning to Poland claimed they intended to emigrate from Poland again when the crisis was over, and 12% were positive about that decision.

The second of the beforementioned studies was conducted in 2009 among 200 Polish returning migrants and designed by the Institute for Social Studies in cooperation with the Centre for International Relations.

The results of the study revealed that 23% of the migrants who returned to Poland already decided regarding re-emigrating from Poland. The majority (63%) planned to come back to the country, which they had left, while 31% were planning to emigrate to some other country, and 7% had not made a decision regarding the destination country by the time they were answering this question.

The main reason for returning to Poland was job loss (62%), which supports the thesis that some migrants who lose their jobs in the destination country because of the crisis are prone to return to their country of origin.

Before returning to Poland, most of the surveyed migrants worked in the UK (43.5%), followed by Ireland (14.5%), Germany (9.5%) and the Netherlands (9%). However, among those migrants, who expressed their willingness to re-emigrate after the economy recovered, and had already decided on the destination country, almost 38% chose the UK, followed by Greece (13.3%) and Germany (11.1%). This shows that Ireland and the Netherlands for some reasons did not prove attractive enough for Polish migrants – as those working in these two countries either decided not to migrate again at all, migrated elsewhere, or did not make decision regarding destination country at that point of time. However, 78% of those declaring re-emigration claimed that they intended to leave Poland in the forthcoming months, and only 13% admitted that their decision depended upon labour market situation. Although the 2008 crisis did not result in mass returns, 43% of the surveyed migrants claimed they knew Polish emigrants who planned to return to Poland in the next months, and 26% claimed they knew over five such persons [Iglicka, 2010].

During the subprime mortgage crisis the emigration from Poland slowed down. Between 2008 and 2010 the total number of Polish emigrants was 40% lower than during the period 2005–2007 [Statistics Poland, 2017a].

Analysis of the Polish migration data from the subprime mortgage crisis period reveals that in case of Poland migration volumes were interconnected with GDP growth: emigration from Poland reached its low in 2009 and 2010, while the negative average GDP growth in the EU was observed in 2008 and 2009 (one-year lag in migration response to GDP growth was observed). The reason immigration to Poland grew in time of the subprime mortgage crisis was that Poland was not hit by recession as severely as other EU countries.

2. Impact of COVID-19 crisis on temporary and seasonal migrations

In the years preceding the COVID-19 crisis, Poland has been one of the main target countries for temporary workforce. According to OECD data, in 2017 Poland was the world top temporary labour migration destination – it is believed to have accepted over one million temporary foreign workers, which was the highest number worldwide (US was second on the list, with over 700 thousand temporary workers) [OECD, 2019]. In 2018 alone Polish authorities issued over 328 thousand work permits for foreign workers [Statistics Poland, 2019], while over 1,5 million declarations of employment of foreign nationals were submitted to Polish offices. Although official data reveals 4.8 thousand permits for seasonal work [MRPiPS, 2019], it is believed that Poland was a target country for a significantly higher number of seasonal workers each year.

The official data on seasonal workers might be underestimated for three reasons: first, because often seasonal workers apply for standard (not seasonal) work permit. Second, because some foreign-born nationals do not need to apply for a work permit in Poland. Among them are EU citizens, full-time students or spouses of Polish citizens. Third, many seasonal workers work in Poland illegally, hence are not embraced by official statistics. For example, the official number of Ukrainians living in Poland in 2019 was 179 154 [Statistics Poland, 2020] while the report released by company analysing location-based mobile data revealed, that in the first week of March 2020, i.e. at the time of pandemic outbreak, over 1.2 million Ukrainians were identified on the territory of Poland [Selectivv, 2019].

The seasonal workers found employment mainly in agriculture and horticulture, but also in hospitality and manufacturing sectors. Even though share of agriculture in Poland's GDP is c.a. 2% (2.4% in 2018), this sector gave employment to over 14% of the workforce. The agricultural land area equaled over 14 million hectares (14,7 million ha in 2018) and agricultural products' exports was worth nearly 30 billion euro in 2018 [KOWR, 2019]. Taking into consideration that the employment in agricultural sector in Poland was decreasing steadily (from 3,5 million in 1990-ties to 1,5 million in 2019) [Komuda, 2020], there was an urging need for seasonal workers to fill this labour gap. The number of seasonal workers in agriculture in years directly preceding the COVID-19 crisis was estimated at over 120 000 [Podgórski, 2020]. According to Statistics Poland, the vast majority of foreign workforce in Poland were Ukrainians (74% in 2018), followed by Belarusians (6.1%) [Statistics Poland, 2019].

However, the COVID-19 pandemic affected the free movement of persons within the EU, as well as the inflow of non-EU nationals into the EU territory. In March 2020, many European countries, Poland included, closed their borders with the neighbouring countries and cancelled international flights. It soon became obvious that the restrictions would have a negative effect on European agricultural sector, which heavily relies on seasonal workers from less affluent European countries.

According to International Organization for Migration because of the COVID-19 crisis, the European agriculture faced serious labour shortages in 2020: in Italy, the labour supply gap was estimated at over 250 000 workers, in France at 200 000 workers, in Spain between 70 000 and 80 000 workers and nearly 80 000 workers in the UK [IOM, 2020; Andriescu, 2020]. Polish agriculture is believed to give employment to over 120 000 seasonal workers each year. Because of the COVID-19 crisis, this number in 2020 was estimated to be three times lower [Podgórski, 2020], should the precautionary measures are not taken.

Therefore, Poland – like many other European economies – introduced special regulations for foreign seasonal workers who intended to work in Poland in the agricultural sector in 2020. The regulations gave permission to foreign agricultural workers to enter Poland during the period of the pandemic, but at the same time imposed many procedures on Polish landowners. The procedures were divided in three groups: a) precautionary procedures, b) procedures limiting spread of the virus and c) procedures to be implemented in case of suspicion of infection of the workers. The aim of the procedures was to ensure safety of the workers as well as the landowners, securing conditions for the foreign workers to stay isolated during 14 days quarantine (should there be such need), limiting the number of face-to-face contacts in the place of work, and ensuring the work will be performed with safety measures [MRiRW, 2020]. The list of the procedures under each of the group was detailed and exhaustive, so it should be assumed that the farm owners had clarity of the safety measures that they needed to implement to hire foreign agricultural workers.

Nonetheless, the inflow of agricultural workers to Poland during 2020 might have been limited because similar gateways and incentives of economic nature were implemented in other countries, including countries with higher wage levels than in Poland. For example, during the first months of the crisis Germany established special quotas for foreign workers from Bulgaria and Romania, which equalled to the total number of 80 000 workers [Eddy, 2020].

Legal regulations relating to precautionary measures imposed in 2020 were perceived as hampering seasonal workers' migrations. This was an effect of additional costs that Polish and European farm owners had to bear because extensive formalities and necessity of adhering to strict rules related to employment of foreign-born seasonal workers in time of pandemic. In some cases, not only did the rules relate to living conditions and social distancing of workers at the farms, but also to their travel from home countries. For example, the German government stipulated that the Bulgarian and Romanian seasonal workers subject to beforementioned quotas must enter Germany by air – which was an obvious obstacle of an economic nature for farm owners who relied on large volumes of foreign seasonal workers each year.

The competition for the Ukrainian seasonal labour was fierce during the first months of the 2020 season. The Ukrainian government negotiated bilateral agreements regarding work permits and quotas with governments of Austria, Germany, Finland, Israel and Czech Republic. This shows that the Polish farm owners were to face competition of countries with higher wage levels, and hence the inflow of seasonal workers to Poland might be limited even beyond the early estimates [Interfax-Ukraine, 2020]. On one hand, the research results indicate that seasonal agricultural workers tend to return to the same farms each year [Martin, 2016], which is also beneficial for farm owners, as it was proven that returning workers are more productive than new workforce [Leith, Davidson, 2020]. On the other hand, seasonal workers tend not to be bound to the destination country – hence the business cycles of potential destination countries as well as incentives offered by governments can be decisive of their choice in case of 2020 crisis [Strockmeijer et al., 2019].

The pro-immigration incentives of the EU governments seem to be the efficient measure, as the analysis of Eurostat data for the entire year 2020 [Matthews, 2021] lead to the conclusion that the pandemic did not cause a significant decrease in n the value of EU agricultural output in 2020. Hence, it might be concluded that seasonal labour migrants were able to travel to their desired destinations due to special regulations implemented by the EU member states in the first months of pandemic.

3. Potential consequences of COVID-19 for internal migrations in Poland

Importance of cities in Poland's development has gradually decreased from 16th century. This was caused, among others, by the predominant role of nobility, who presented aversion towards urban bourgeoisie. Among different reasons behind this negative attitude towards urban dwellers, the most important was competition for power and national prejudices towards Jewish and German minorities living in Polish cities at that time. Serfdom and related limitations in peasants' mobility were another reason behind slow – relative to other European countries – development of the Polish cities [Węcławowicz, 2007, p. 169].

As a result, the ratio of urbanization in Poland in 1842 was below 20% [Dumała, 1974], with none of the Polish cities (unlike emerging European centres of commerce and industry) being attractive destination for domestic and international immigrants. Moreover, in the period between 1795 and 1918, development of the Polish cities was hampered by the partitions. Hence, the dynamic development of cities in Poland was to be observed later than in Europe, in the late 19th century, when the serfdom was abolished.

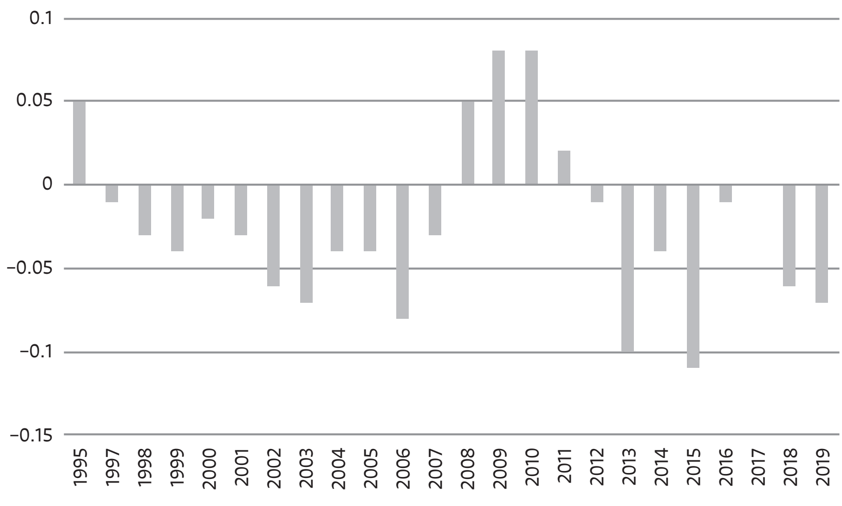
Because of relative underdevelopment of Polish cities at that time, the popular rural – urban migration destinations were foreign (especially American and German) cities. However, immigration to the United States was hampered in the 1920s by rigid US immigration policy [Walaszek, 2007, p. 28].

The overall condition and attractiveness of Polish cities improved in the early 20th century, before the World War I. In 1938, the share of urban population in Poland's total population equalled 30%, which was the highest percentage in Poland's history to date. Still, the probability of finding employment in Polish cities during that period was relatively low, with an exception to only three of the Polish regions: Pomerania, Greater Poland and Silesia. The remaining regions of Poland were still underdeveloped, which is believed to be a cause for low pace of rural-urban migrations.

The share of urban population in Poland's total population grew after 1945, when the socialist government forced industrialisation and provided incentives for Polish citizens, who were willing to migrate to cities from rural areas. At that time, migration to Polish cities was perceived as social advancement and was connected to improved living conditions. Nonetheless, the centrally planned economy did not account for individual location preferences and was characterised by low quality of urban characteristics [Lorens, Mironowicz, 2013, p. 23]. Also, economic incentives in the socialist economy were not strong enough to force *en masse* rural-urban migration flows.

After the collapse of the socialist regime, the Polish urbanisation trend reversed. 1995 was the last year in the 20th century, when urban population share grew in total Poland's population. This deurbanisation trend continued throughout the 21st century, with an exception to 2008–2011, when growth in rural-urban migrations was substantial (Figure 2).

Figure 2. Changes in the Polish urban population between 1995 and 2019 (%)



Source: own calculation based on Statistics Poland [2017b].

This period is important from the point of view of this analysis, as in 2008 the global economy was affected by the subprime mortgage crisis. Hence, perhaps a similar trend could be expected as an aftermath of the COVID-19 crisis. However, it is claimed that the COVID-19 crisis, although it is likely to result in similar macroeconomic effects, i.e. bankruptcies, rise in unemployment and lower output, and despite its global nature, does not have to trigger the same outcomes in rural-urban migration as the subprime mortgage crisis.

In 2018, according to Statistics Poland, 111 720 people migrated from rural to the urban areas in Poland, and the general long-term downward trend since 2009 was to be observed in that regard, despite temporary growth of rural-urban migrations in 2013–2014 and 2015–2017 [Statistics Poland, 2017b]. According to Eurostat and Statistics Poland data, at the end of December 2018 the share of Polish rural population was 39.9%, which is over 10 percentage points higher than the average for EU countries (equal to 29.1%) [Eurostat, 2020b].

The major reason behind the lower urbanization rate is that Polish cities, with an exception of Warsaw, do not provide similar economic opportunities as the largest EU municipal centres. According to the 2018 E-REGI City Ranking by La Salle, which is based on the model that combines variables on economic growth, the overall level of wealth, and the relative attractiveness of the business environments, none of the Polish major cities was classified in the EU top 40, apart from Warsaw, which was ranked 17th [LaSalle, 2018]. Hence, the incentive for rural-urban migration in Poland is lower than in most of the EU15 countries and this trend is foreseen to be weakened, or even reversed, because of the COVID-19 crisis.

While the growth in rural-urban migrations as an aftermath of the 2008 crisis could be explained as compensation for lower emigration (those who planned to emigrate to other country changed their plans because of the recession in the EU and looked for jobs in Polish cities), this effect is not likely to take place in case of COVID-19. Due to imposed lockdowns and the fact that companies had to switch to remote work, the demand for houses and land grew rapidly relative to demand for flats. According to HRE Investments report, within the first two months after the pandemic state was announced by the Polish government, Poles changed their preferences in terms of preferred size of the flats and houses. The analysis of searches in Polish popular online platform for property trade revealed that Poles looked for larger flats (average of 60 sqm compared to 40 sqm before the COVID-19 crisis) and larger houses (over 100 sqm compared to below 100 sqm before the pandemic' outburst). Moreover, one month after the limitations in mobility had been imposed, the demand for houses grew relative to demand for flats (some reports indicate 15 percentage points growth in demand for houses relative to demand for flats) and demand for parcels reached its historical peak, being over three times higher than during the respective period of the previous year [Wesołowska, 2020]. This trend continued over the next months of the pandemic [Gawrońska, 2020]. This could be explained by switching to remote work and remote education model, which triggered a need for every household member to have his own separated work space.

Moreover, young people who immigrated to cities from the rural areas and lost their jobs or were allowed to work or study remotely due to the pandemic, were likely to return to their family homes and stay there before the economy recovers. This is what happened in other European countries, e.g. in France, where between 10% and 17% of Parisians were reported to emigrate to countryside and stay there even despite the lockdown regulations have been abolished [Thiessen, 2020].

Assuming that the COVID-19 crisis will have affected the Polish economy in the long run, and that the Polish economy will have suffered lower output and higher unemployment, as well as considering that Poles' preferences shifted from living in flats towards living in houses, it is reasonable to expect that Poles will look to emigrate from big cities to cities' outskirts or even more remote areas. By doing so, they will be able to buy properties of decent size at a price of relatively small flats in big cities. Probability of such changes in place of living by many Polish families is fostered because a majority of companies adopted remote work as a part of their operating model during the COVID-19 crisis and, according to report by EY, it is forecasted that many of them will allow for remote (or at least partially remote) work of their employees, even after the crisis is over [EY, 2020].

Conclusions

International mobility was significantly reduced since the outbreak of the COVID-19 pandemic, and it is expected that the consequences of the crisis for Poland's internal and international migration flows will be observed in the long run. This standstill in human mobility caused by the pandemic was unprecedented and was not the case with any of the previous crisis.

As a general rule, migration flows tend to decrease during economic downturns, even despite a likely increase in return migrations to developing countries, which are net exporters of labour. However, during the COVID-19 pandemic, the decrease in migration is likely to be significantly higher than ever before. It was never the case since the Second World War that state borders were either restored (in case of the Schengen area) or even closed for foreigners. Also, until 2020 crisis, it was never the case that majority of airlines cancelled or significantly reduced their passenger operations. This affected international mobility to an unprecedented degree. Among the most affected groups were seasonal and temporary workers, potential migrants who had already planned their migrations, and business travellers.

It is claimed that COVID-19 is likely to result in significant decrease in migration flows from and to Poland, compared to previous years. Apart from potential emigrants, the most affected groups will be temporary and seasonal workers, especially those of Ukrainian and Belarusian descent, who might not be willing or able to work in Poland before the pandemic ends. The fundamental question, which cannot be answered at the time when this chapter was written, is if they decide to return to Poland when the pandemic is over, or if they chose to migrate elsewhere, taking advantage of incentives and/or higher wages offered in other EU countries.

Whether Poland will sustain its leading position as the target economy for temporary workforce will largely depend on the pace of business recovery in Poland, as well as of asymmetry of this process against other EU economies. After the few first months since the pandemic outbreak, Poland's 2020 GDP growth forecast was downgraded by the IMF estimated it as −4.6%, compared to −7.1% for the entire EU [IMF, 2020]. The first official estimates of the Polish GDP growth published by Statistics Poland at the end of January 2021 were more optimistic, indicating that Poland's GDP growth in 2020 will oscillate around −2.8% [Statistics Poland, 2021].

However, this relatively better economic outlook for Poland compared to the entire EU area is not believed to lure immigrants in the long run. Moreover, since the state aid for employees and entrepreneurs in Poland was more limited than in the wealthiest EU countries, there were no incentives for return migrations, except for those migrants, who lost their jobs and moved back to family homes.

On the contrary, it is claimed that the pandemic is likely to trigger an increase in internal migrations within Poland, by accelerating the urban-rural migrations process. Unlike with the subprime mortgage crisis of 2008, and like in many other European countries, during the first weeks of COVID-19 pandemic many Poles moved to their family homes in cities' outskirts or in the countryside. Also, during that period, demand for houses and parcels grew rapidly relative to demand for flats. Although this might be only a temporary trend, it is quite probable that people will look to move away from cities in the long run. This might be fostered by a systemic change in working model – remote working was introduced and proved viable in most Polish companies, and it is likely that employees will be allowed to work in remote or hybrid model after the pandemic is over. Finally, Polish property prices outside major cities are relatively low compared to other EU countries.

However, it must be emphasized that it is still too early to draw final conclusions regarding the influence of COVID-19 pandemic on migration flows – this will be possible only after the pandemic ends.

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CHANGES IN THE SYSTEM OF OWN RESOURCES OF THE EU BUDGET AFTER 2021: IMPLICATIONS FOR POLAND

Abstract

Since 2021 a number of changes in the EU financing system have taken place. They result mainly from two factors:

1) the adoption of a new multiannual budget (Multiannual Financial Framework – MFF) for the years 2021–2027 and related modification of resources financing this budget;
2) agreement of EU Members on the New Generation EU (NGEU) instrument aimed at combating the effects of the recession, following the COVID-19 pandemic.

The aim of the paper is to assess possible consequences of these developments for the amount and structure of Polish contributions to the EU budget in 2021–2027. As regards new own resources of the budget, proposals and decisions presented in EU documents and new laws are discussed, their pros and cons and possible changes in Poland's cost of financing Poland's contributions to the EU budget. The chapter on the NGEU addresses the ways of funding of the huge recovery programme and their impact on Poland's contribution to the EU budget. Because of the limited volume of the article, implications of the United Kingdom's exit from the EU are omitted in the analysis.

The general conclusion is that since 2021 the net cost of financing the EU budget by Poland resulting from changes in the own resources of the EU budget has increased slightly, at around EUR 300 million (2019 prices, without financial effects of Brexit). It is the equivalent of 2% of Poland's contribution to the EU budget in 2019. This increase is a net effect of two opposing tendencies: a. elimination of the cost of financing VAT rebates for several EU Members and changes in traditional own resources, and b. the implementation of a plastic levy and the necessity to finance new rebates offered as of 2021 to several rich countries. NGEU implications for financing the EU budget (repayment of the debt) will appear mostly after 2027 when the repayment starts and more money is needed.

Keywords: EU budget, Multiannual Financial Framework, EU own resources, Polish contributions to the EU budget
JEL Classification: E62; F36; H27

Introduction

In July 2020 the EU leaders agreed on the next seven-year budget for 2021–2027 (Multiannual Financial Framework – MFF) at EUR 1.1 trillion [European Council, 2020a]. The agreement has had significant implications for Members States' contributions to the EU budget. These implications result from two factors:[1]

1) for the first time in many years, the EU leaders have achieved agreement on the new resource of financing the MFF;
2) apart from the standard seven-year budget for 2021–2027, a huge emergency recovery programme, Next Generation EU (NGEU) was agreed; it provides financial sources for Member States in grants and loans; the whole package worth EUR 750 billion is intended to pull the European economy out of deep recession, following the COVID-19 pandemic, while maintaining the EU goals of the green and digital transitions and continuing "standard" EU policies (Common Agricultural Policy, cohesion, research etc.); the NGEU will be financed from the debt which has to be repaid in the future.

The objective of the paper is to assess what consequences these new decisions may have on the amount and structure of the Polish contribution to the EU budget in 2021–2027. The answer to this question is important because each of the changes has affected Polish contributions. Thus, the question arises whether the new arrangements have increased or decreased the scale of burdening the Polish budget with EU contributions. In particular, we address two detailed questions: What are the financial implications for Poland of:

a) modification of the sources of financing the EU budget, including a new resource (the so-called plastic levy);
b) adoption of the NGEU.

Both analysed questions relate to the revenue side of the EU budget (Poland's contributions to the EU budget). The analysis is based on the July 2020 and the December 2020 Conclusions of the European Council (political agreements) on financing the EU activities in 2021–2027. These commitments were confirmed by the legally binding laws adopted in the end of 2020, and first of all by the Decision on the system of own resources [Council Decision, 2020]. Also, earlier budgetary laws (including annual budgets) were used to estimate consequences of the financial package for 2021–2027 for Poland. For the purpose of assessment of possible implications of the own resources proposals, the available literature was used.

1 The third important factor – Brexit – has been omitted in the analysis due to the space limits of this paper. Its effects on Poland have been discussed by Ambroziak, Kawecka-Wyrzykowska [2021].

1. Types of new own resources, timetable of their implementation and their role in financing EU activities after 2021

As a first step of the July 2020 European Council Conclusions, a new category of own resources was decided to be introduced as of 1 January 2021, the so-called plastic levy. It will be calculated on the basis of non-recycled plastic packaging waste in Member States. Moreover, the European leaders noted that, as a basis for additional own resources, the Commission would put forward in the first semester of 2021 proposals on a carbon border adjustment mechanism and on a digital levy with a view to their introduction at the latest by 1 January 2023. The European Council requested the Commission to put forward a revised proposal on the EU Emissions Trading System (ETS), possibly extending it to the aviation and maritime sectors. It also concluded that the Union will, in the course of the Multiannual Financial Framework for the period 2021–2027, work towards introducing other own resources, which may include a Financial Transaction Tax [European Council, 2020a, points A29 and 147].

Table 1. Schedule of implementation of the own resources proposals

Name of the own resource proposal	Schedule	Estimated revenue (EUR billion per year)
Levy on non-recycled plastic waste	Introduction and application – January 1, 2021	7
Digital levy	Proposal in first semester of 2021 Introduction by January 1, 2023	1.3
Carbon Border Adjustment	Proposal in first semester of 2021 Introduction by January 1, 2023	5 to 14
Revised Emission Trading System Scheme (potential expansion to aviation and maritime)	In the context of the next Multiannual Financial Framework	10[2]
Financial Transaction Tax	In the framework of the next Multiannual Financial Framework (negotiations would conclude prior to 2028)	57

Source: own compilation based on Interinstitutional Agreement [2020, Annex II, Part B] and https://ec.europa.eu/info/sites/info/files/factsheet_3_en.pdf (accessed: 30.03.2021).

The July 2020 Conclusions of the European Council, which provided for implementing several new own resources, were not legally binding. European Parliament, pushing for many years for new resources, insisted on the new law committing Member States to introduce those proposals. Under this pressure, Interinstitutional Agreement (Annex II)

[2] In other documents, the Commission estimated the revenue from EUR 1.2–3 billion, depending on the market price for EU Emission Trading System allowances and on the annual auction volume [European Commission, 2018d, p. 8].

included the roadmap to introduce new own resources to feed into the EU budget during the next seven years. The roadmap confirmed the arrangements adopted in July 2020 by the European Council (Table 1). This Agreement provided the frame for budgetary issues. The legally binding Decision on own resources of 2020 [Council Decision, 2020] repeated in the preamble the Conclusions' timetable of implementing the new resources and not in the main text. The wording reflects intentions, but not concrete decisions (except for the plastic levy). It is to be seen whether this schedule is implemented.

The new resources should cover part or the total amount of the Brexit gap and should be also used to repay part of funds that the Commission will borrow on behalf of the EU on financial markets to finance the recovery programme NGEU (more: point 3).

The above decisions and proposals on the new sources of revenue are not new, and each of them has given in the past rise to controversies. Below we present briefly the idea of each of these proposals, main arguments for and against the proposal and assess it from the Polish point of view.

2. Decisions on and proposals of new own resources

National contribution calculated on the amount of non-recycled plastic packaging waste (the so-called plastic levy)[3]

This new type of budget revenue will be calculated on the weight[4] of plastic packaging waste that is not recycled, with a call rate of EUR 0.80 per kilogram of this type of waste.[5] It entered into force retroactively as of 1 January 2021, following the ratification of the Own Resources Decision by all EU Members. In its initial proposal of 2018, the European Commission estimated the revenues from this levy at EUR 7 billion per year (Table 1). The new levy allows a corresponding reduction of the GNI contribution. The basis for a new contribution has to be high quality and timely statistics on waste generated in each Member State, and in particular on Plastic Packaging Waste. Such statistics already exist, albeit they have to be improved.

3 Another option discussed earlier was the proposal to introduce an EU wide tax on some plastic packages (e.g. bottles, plastic bags). However, such a proposal would definitely be rejected by many Member States as imposition of taxes lies in the competences of national governments and an EU proposal would be treated as reduction of national sovereignty of countries. Also, it could overlap with existing national measures.

4 The weight of plastic packaging waste that is not recycled shall be calculated as the difference between the weight of the plastic packaging waste generated in a Member State in a given year and the weight of the plastic packaging waste recycled in that year that is determined pursuant to Directive 94/62/EC [Council Decision, 2020, art. 2(2)].

5 The Decision on Own Resources of 2020 introduced the definition of plastic for the purpose of this type of revenue [Council Decision, 2020, art 2(2)].

The new contribution is an element of the European Strategy for Plastics in a Circular Economy adopted in the EU in January 2018 [European Commission, 2018a] (Box 1), following the 2015 Circular Economy Action Plan. As the plastic packaging generates pollution which harms the environment as well as human and animals health, it is expected that the levy will foster recycling and stimulate Europe's transition towards a circular economy (the so-called double dividend; it is a protection of environment and financing the EU budget) [European Commission, 2018c, pp. 27–28]. An additional benefit of implementing plastic strategy and of the new budgetary revenue, apart from the expected improvement of the quality of the environment, is that such measures should contribute to stimulate investment in recycling facilities and to increase new jobs [European Commission, 2018a, p. 5].

Box 1. Actions to implement the European Strategy for Plastics in a Circular Economy

Following the Strategy, a directive of 2018 established recycling targets for various types of materials containing packaging waste (plastic, paper, glass, wood, etc.). As for plastic packaging, the minimum recycling rate is 50% (by weight) by 2025 and 55% by 2030 [Directive (EU) 2018/852]. In 2018, the recycling rate for plastics reached only 32.5% across the EU, a slight increase compared to 2016. Thus, this indicator was significantly lower than the target adopted in 2018. The problem is big, as plastic packaging accounts to-day for about 60% of post-consumer plastic waste in the EU.

On 1 January 2021, the new rules entered into force, which should contribute to the segregation of plastic and reduction of plastic waste. According to them, the export of plastic waste is only allowed under very strict conditions. The export of unsorted plastic waste to non-OECD countries is completely banned. Export is allowed only for clean plastic waste sent for recycling. Exporting plastic waste from the EU to OECD countries and imports in the EU has also been more strictly controlled. The new Regulation is an important milestone in fighting plastic pollution, transitioning shifting to a circular economy, and achieving the aims of the European Green Deal.

Source: https://www.euractiv.com/section/circular-economy/news/plastic-waste-and-recycling-france-among-eus-poor-performers/ (accessed: 20.03.2021); https://www.euractiv.com/section/energy-environment/news/recyclers-fret-as-eu-plastic-waste-export-ban-comes-into-force/ (accessed: 20.03.2021).

The assumption to a positive impact of the new contribution to the reduction of plastic waste may not be fulfilled, however, as the levy itself may not be sufficient to achieve this goal. The levy revenue is transferred from national budgets. In order to reduce the waste, Member States should introduce their own measures to incentivize producers and customers to reduce and segregate the waste. Without such measures, the levy is a burden for Member States' budgets with low or no positive impact on plastic waste. The effect would be different if national levies or stricter national laws were introduced (to diminish national fiscal burdens, but also to increase the efficiency of the new instrument). Such decisions, in line with fiscal autonomy of EU Member States, belong to the respective authorities of those States.

Several countries have opposed the proposal, being afraid that this would be the first step towards the increased competences of EU institutions and towards EU-wide taxes. The result would be a reduction of fiscal sovereignty of Member States. However, the Decision on own resources has underlined that Members remain autonomous in the choice of the most appropriate measures to reduce plastic pollution. Member States are under no circumstance obliged to introduce a tax and most of them have opted for regulatory measures to reduce their contribution [Council Decision, 2020, preamble, point 7]. The common objective can be achieved through regulatory measures.[6]

The other argument against this proposal was that the revenue from plastic waste would decline in the next years and as a result, a decrease of the revenue would also appear. Such a scenario cannot be excluded, but a) if it occurs, it will be beneficial for the environment, b) it will then be reasonable to introduce a different environmental protection fee.

However, the main point of critique, presented by less affluent states, including Poland, has been the regressive character of this levy which would result in unjust burden for countries like Poland. Poland was against this levy, arguing that the burden related to the new levy would be relatively high as compared to countries where more waste is recycled. Simple calculations based on Eurostat data indicate that Poland's share in the non-recycled plastic waste of the EU27 (in quantitative terms) would significantly exceed (more than twice) the share of Poland's GNI in the GNI of the entire EU, respectively 7.3% and 3.52% (based on recent 2018 data, UE 27).[7] The main reason is that Poland is a country characterised by a relatively low plastic waste recycling rate [see also: Kawecka-Wyrzykowska, 2020]. Let's note however that, in line with Eurostat data, the rate of recycled waste is not always positively correlated with the level of wealth of the society (Box 2). The differences in the proportions discussed mainly reflect two factors: the amount of waste per capita and the rate of waste subject to recycling.

Box 2. Relationship between the rate of recycled waste and the level of wealth of the population (based on latest available data for 2018)

In several EU Member States, more than half of the plastic packaging waste generated was recycled in 2018, the best performers being: Lithuania (69%), ahead of Bulgaria (59%), Slovenia (60%), Czechia (57%), Slovakia (52%), Sweden (50%), it is not the richest countries. This group included also a very wealthy country, the Netherlands (50%). In contrast, one third or less of plastic packaging waste was recycled (in %): Luxembourg and Austria (32%), Finland (31%), Estonia (38%), France (27%) and Malta (20%). For Poland, this indicator was relatively low (36%), while the average for the EU was 42%. Thus, even lower indicators than in Poland were, among others, in Luxembourg, Austria, Finland and France, it is more wealthy partners.

Source: own calculations based on https://ec.europa.eu/eurostat/databrowser/view/ENV_WASPACcustom555458/default/table?lang=en (accessed: 10.05.2021).

Under the pressure of the argument of regressivity of the plastic levy, the Decision on Own Resources, adopted in December 2020, introduced annual lump sum reductions for

6 https://www.europarl.europa.eu/doceo/document/E-9–2020-001186-ASW_EN.html (accessed: 30.03.2021).

7 Source: own calculations based on https://www.statista.com/statistics/812510/plastic-packaging-waste-recycling-eu-by-country/ (accessed: 18.03.2020) and Budgets [2018, p. 15].

certain Member States in the years 2021–2027.[8] For Poland, the annual reduction amounts to EUR 117 million [current prices, Council Decision, 2020, art. 2(2)]. The annual sum of these reductions for all countries amounts to EUR 0.7 billion.

Let's notice, that this correction mechanism (the reduction in contributions based on plastic levy) in itself contradicts the environmental reasoning for the tax [Körner, Böttcher, 2020, p. 4]. On the other hand, the lump sums are the way to reduce the uneven cost of this levy for EU Members. To avoid/reduce the cost of the levy in the future, beneficiaries of the temporary lump sum reductions should work on the reduction of the amount of unsegregated plastic waste.

The cost of this new own resource for Poland can be estimated at around EUR 507 million (quantity of unrecycled plastic waste in 2018, equal to 633 million tonnes, multiplied by EUR 0.80 per kilo of waste). Due to the lump sum reduction at EUR 117 million,[9] the cost of Poland's contribution should be reduced to around EUR 400 million. This contribution will reduce the due amount of GNI-based contribution (within the limits of the budget ceilings, once it enters into force). The saving in the GNI contributions will, however, be smaller than the cost of the new levy. The reason is that the plastic-based new revenue to the EU budget will be calculated as a sum of all Member States' levies, and this sum will reduce the GNI-based contributions necessary to ensure balanced EU budget. Plastic levy contribution of 27 EU Members is estimated at EUR 6.9 billion. Rebates for several countries (EUR 0.7 billion) reduce this amount to EUR 6.2 billion. This sum reflects the reduction in GNI-based contributions. Poland's participation in this reduction is calculated as an equivalent of Poland's share in the EU27 GNI in 2019 (3.59%) and amounts to EUR 223 million.[10] This sum is 2 times less than the cost of a plastic levy contribution after rebate (EUR 400 million).[11] Thus, the net cost of the plastic levy implementation (the additional contribution to the EU budget resulting from this levy) is around EUR 180 million.

8 It's in line with the July 2020 Conclusions that a new revenue will be introduced "with a mechanism to avoid excessively regressive impact on national contributions" (European Council, 2020a, point 146). Apart from Poland, the lump sum reduction has been granted to the following countries (figures in EUR million are given in brackets): Bulgaria (22), Czechia (23.2), Estonia (4), Greece (33), Spain (142), Croatia (13), Italy (184), Cyprus (3), Latvia (6), Lithuania (9), Hungary (30), Malta (1.4), Portugal (31.3), Romania (60), Slovenia (6.3), Slovakia (17). The lump sum reductions have been offered to "Member States with a GNI per capita in 2017 below the EU average. The reduction should correspond to 3,8 kilograms multiplied by the population in 2017 of the Member States concerned" (Council Decision, 2020, preamble, point 7).

9 Lump sums on the plastic levy contributions are expressed in current prices (2020) [see: Council Decision, 2020, art. 2(2)].

10 Own calculations based on: Budget 2019, p. 15 and https://ec.europa.eu/eurostat/databrowser/view/ENV_WASPAC__custom_545339/default/table?lang=en (accessed: 14.05.2021).

11 Poland's contribution of EUR 400 million amounts to 6.5% of all contributions of this type (reduced by rebates) calculated on the basis of 2018 waste data while Poland's share in the EU27 GNI was 3.59% (in 2019). This comparison confirms the regressivity of the plastic levy.

The digital tax

The Council intends to introduce a digital tax relatively quickly, by the end of 2022. The Commission's proposal of 2018 provided for taxing of large digital companies with a global annual turnover over EUR 750 million and more than EUR 50 million in the single market. The Commission has proposed the digital levy,[12] mainly to finance the EU budget. The equally important argument it presented has been the necessity to ensure fair competition on the internal market. Most corporate bodies pay CIT, but not digital companies, because they are registered usually outside the EU. It happens although such companies generate huge profits on the EU internal market.

The Commission is pushing for the tax also because some Member States have already introduced or are preparing to introduce their own digital taxes (Austria, Italy, France and Spain). Several members (France, Italy, Spain, Austria, Germany, Bulgaria, Romania, Slovenia, Greece and Portugal) have expressed their support for the introduction of a European digital tax for some years already. There is, however, also a group of countries which are against this proposal (Ireland, the Netherlands, Denmark, Sweden, Finland, Luxembourg and Malta).[13] As a result, different rules of taxing within the single market are in force, which distorts competition.

During the pandemic, the demand for digital services and, as a result, the revenue of companies increased significantly, thus strengthening the argument for taxing their profits. However, there are also important arguments against this tax. The first one is a risk of double taxation of multinational companies operating in the EU and outside the EU, which would violate the rule of non-discrimination. The second one is a question about the coherence of this tax with policies to promote digitalisation (a risk of shifting the cost of the tax onto service buyers). There is also a big risk of retaliation by EU partners whose companies would become subject to this tax.

Until recently, the adoption of the new tax was discouraged much by the US position. The US strongly opposed such a tax because it would mostly affect US digital companies, being the largest operators in the EU market (the so-called GAFA – Google, Apple, Facebook, Amazon). The situation was further aggravated in May 2020 when President D. Trump decided that the USA should withdraw from the OECD digital tax negotiations. Without a multilateral arrangement, the EU's introduction of such a tax would most probably put the whole bloc at risk of US retaliatory measures. A promising sign is that the new President J. Biden has declared to return to the talks within OECD. These talks tackle different

12 It presented the proposal for the first time in 2017, but the Council rejected the idea.

13 Politico, September 21, 2017; International Tax Review, July 12, 2018, cited after: https://taxfoundation.org/new-eu-budget-is-light-on-details-of-tax-proposals/ (accessed: 30.03.2021).

tax challenges arising from the digitalisation of the economies, including the proposal of working out the rules for taxing the digital economy.

From the Polish point of view, providing that the international agreement is possible, the digital levy would be easier to accept than any environmental levy (tax). First, the burden would not be regressive. Second, the cost of such a tax would not be borne by the state budget, as the tax would be paid by digital companies.

The Carbon Border Adjustment Mechanism (CBAM)

The proposal of this instrument was presented by the Commission in July 2021, with the aim of its gradual implementation from 2023, fully in 2026 [European Commission, 2021]. CBAM is a part of a very comprehensive climate package "Fit for 55"[14] aimed at achieving the EU's ambitious target of a 55% reduction in carbon emissions compared to 1990 levels by 2030, and at becoming a climate-neutral continent by 2050. According to the proposal, the CBAM will be based on certificates whose prices correspond to the carbon content of imported products and are calculated on the basis of weekly average auction price of EU ETS allowances. The main objective of CBAM is to solve the carbon leakage problem and to protect in this way climate. A leakage occurs when production is transferred from the EU to other countries with lower emission reduction ambitions or when EU products are replaced by more carbon-intensive imports. Such situations undermine the strategy to reduce CO_2 emissions and the relevant EU efforts.[15] In this context, the CBA mechanism would ensure that the price of imports more accurately reflects their carbon content and ensures fair competition on the EU market. While contributing to the protection of climate, at the same time this instrument would also raise additional revenue for the EU (the so-called double dividend, like in the case of plastic levy and other environmental taxes). Taking into account a lot of technical problems with its implementation, CBAM proposal is limited to only a few goods at high risk of carbon leakage: cement, iron and steel, aluminium, fertilisers, and electricity generation.

Many experts point out that the proposal will be difficult to implement. A lot of complex issues have to be solved (how to price carbon content effectively, it is how to calculate the amount of CO_2 that is contained in products; sufficient data availability; right criterion and basis for its calculation, etc.). It would be even more difficult to calculate the emissivity (carbon content) of goods that were produced in several countries (specialization in parts). Also, experts are not sure whether the proposal is compatible with WTO

14 https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541 (accessed: 15.07.2021).

15 So far, the EU has managed to reduce this phenomenon by granting free emission allowances to entities from energy-intensive sectors (e.g. cement or steel producers). However, this reduces the incentives to reduce emissions (although only the most efficient electrical installations receive full support).

rules and will not start conflicts with trading partners. Thus, there are plenty of methodological and legal obstacles, which make this solution extremely difficult, if not impossible to apply [Krenek, 2020].

Also, some opponents question the existence of the problem of carbon leakage: "The existence of significant direct carbon leakage – which is the problem a CBT is designed to address – is mixed, and it would not be straightforward to design a CBT that is both politically/legally feasible and economically/environmentally meaningful." Basing on previous analyses, the same authors argue that "Ex-post empirical studies of the EU emissions trading system (ETS) and other sub-global carbon pricing policies, have not yet found any significant evidence of carbon leakage." They suggest that "alternatives to CBTs should be considered" and present in their analysis the respective proposals [Zachmann, McWilliams, 2020].

The proponents argue that "a CBA would be a perfect instrument to ensure a level playing field for domestic and foreign producers and avoiding potential carbon leakage" [Krenek et al., 2020, Abstract]. The measure would limit competition from outside the EU for producers from the industries subject to CBAM [thus, reduce competitive disadvantages for effective producers within the EU – Körner, Böttcher, 2020, p. 5]. The cost of CO_2 emissions would be added to the price of imported products (from outside the EU). The introduction of an additional import charge would affect both the sectors that use the raw materials covered by it, and the sectors that process these raw materials. CBAM would raise their prices, which would increase the cost of the goods produced. The increase in prices for consumers would largely depend on the price of ETS allowances (in the end of July 2021, it exceeded EUR 50 per ton of CO_2 emissions),[16] as well as on the scale of allowances transferred to emitters free of charge.[17] At the same time, CBAM should encourage CO_2 emitters to make a low-carbon transition. Without this, the energy they produce will not be competitive with those suppliers who provide cheaper energy (e.g. from producers of solar energy). Such an effect will appear, among others, following the gradual withdrawal of the EU – as part of the climate policy – from free CO_2 emission allowances [Wąsiński, 2019; see also next point]. At the same time, the new mechanism would help mobilize other countries to similar activities in order to maintain competitiveness on the EU market.

Possible effects of CBAM for Poland will be similar to the above-mentioned general implications. On one hand, the new instrument will protect carbon intensive producers threatened now by cheaper competition from outside the EU based on lower climate ambitions abroad. On the other one, however, the introduction of CBAM, combined with the withdrawal of free allowances (to avoid double protection of EU producers), will increase

16 https://ember-climate.org/data/carbon-price-viewer/ (accessed: 27.07.2021).
17 https://europarlament.pap.pl/graniczny-podatek-weglowy-skomplikowane (accessed: 14.05.2021).

costs of production as producers in Poland (and in the whole EU), will have to pay the full price for emissions allowances. And this price will increase with the intensification of EU efforts to achieve climate neutrality by 2050. The solution to this problem is investment in new technologies which are less carbon intensive, transformation of electricity production sector which is the biggest emitter of CO_2, and similar activities.

ETS proceeds as a new own resource[18]

The Emissions Trading System (ETS) started to operate in the EU and in other countries of the European Economic Area in 2005 and later was extended in several phases. The main objective of this instrument is to combat climate change and reduce industrial greenhouse gas emissions [European Commission, 2018d, p. 8]. A key element of the ETS is a maximum (cap) on the total amount of greenhouse gases that can be emitted in the Member States by the sectors covered. Larger industries were given a cap to their emissions under the system and are required to obtain or buy emission allowances from ETS auctions or from secondary markets to cover their emissions under this cap. National governments are allowed to allocate free allowances, especially to installations, which are considered to face carbon leakage risk [i.e. a risk of reallocation to regions without the ETS – Kari et al., 2018]. Part from the sale of ETS allowances goes to national budgets. 50% of the ETS proceeds Member States should earmark for climate-related activities. The EU ETS governs more than 40% of the EU's total greenhouse gas emissions since the transport sector (excluding aviation), agriculture and small-scale producers are not included in the ETS [European Commission, 2018d, p. 8].

According to the European Commission, in total, around 43% of the total amount of allowances was allocated to installations for free from 2013 to 2020. The total amount of allowances will decline each year by 2.2% during the fourth trading period (2021–2030).[19]

The proposal from 2020 stipulates that 20% of revenues from the total allowances available for auctioning would be transferred to the EU budget [European Commission, 2018b, p. 27].[20] It was estimated at EUR 10 billion annually.[21] The final amount of the revenue will depend on the market price for the EU ETS allowances and on the annual auction volume

18 The option to transfer part or all of ETS revenue to the EU budget as an own resource was examined for the first time in the 2010 budget review, but the subsequent Commission proposals of 2011 did not take it further.

19 https://ec.europa.eu/clima/sites/clima/files/factsheet_ets_en.pdf (accessed: 15.04.2021).

20 The contribution based on the ETS would only apply to allowances distributed to the Member States based on 2005–2007 emissions. It covers 90% of the allowances available for auctioning. The allowances auctioned for aviation (around 10% of the total revenue from allowances) would be excluded from the calculation of contributions.

21 https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_935 (accessed: 14.05.2021) (Table 1).

[European Commission, 2018d, p. 8]. This amount would be bigger in case of extending ETS to aviation and maritime sectors, as envisaged in the proposal for this revenue.[22]

The system could be introduced easier than a number of other proposals due to the relatively high level of harmonisation of its rules. In particular, phase three of the ETS (2013–2020) has brought significant harmonisation of the system at the European level: a single EU-wide cap on emissions instead of previous national caps, the progressive increasing share of auctioning (and reduction of free allocations), harmonised allocation rules for the remaining free allocations, the inclusion of more sectors and gases and the creation of an EUR 300 million reserve to fund innovative renewable technologies and carbon capture and storage. Thus, the collection and administration of current ETS revenue is ensured at the national level (by authorities designated by Member States) but a lot of rules and procedures are the same or very similar. Collecting the ETS-based revenue as an own resource would entail a simple transfer of part or all of this revenue to the EU level.

A contribution from the ETS to the EU budget seems to be politically more feasible than an extension of the system to aviation and maritime. In both sectors, there are, however, discussions at an international level to introduce an emissions trading system.

The weakness of the ETS-based own resource is its lack of stability from one year to the next one (e.g. during the stagnation of the economy, the demand for energy is reduced and as a result also the price of auctioned allowances). So, the final result will depend much on the price of ETS allowances. In the longer term, this price should increase.

The most important problem is, however, that the ETS-based revenue, like the plastic levy, is of regressive character. Poorer countries would usually pay more because they record relatively higher revenue. Such economies tend to be dominated by traditional production emitting more carbon and other greenhouse gases than innovation-based production, typical of richer countries. The share of those countries in ETS revenue is higher than their share in EU GNI.

The regressivity of this proposal is a big problem particularly for Poland as the gap between Poland's share in the ETS-based revenue and in the EU GNI is high. The share of Poland in the EU27 ETS-based contributions in 2018 was around 6%, whereas in the EU27 GNI – a mere 3.52%.[23] Therefore, the burden for Poland would be relatively high. The main reason for this situation is the substantial share of high-emission industry and the coal-based energy sector in Polish economy, as well as significant sales of CO_2 emission allowances [see more: Kawecka-Wyrzykowska, 2020].

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22 Aviation has been part of the ETS since 2012. However, the EU had to limit it to aviation within the single market, following strong reactions – particularly from the United States and China – to plans to include international aviation in the European ETS. Without international agreement, it remains difficult to include international aviation and maritime.

23 Own calculations based on data at: http://www.maximiser.eu/ets-tool (accessed: 20.03.2021).

The Financial Transaction Tax

FTT would be imposed on all secondary market trading in securities between financial institutions of which at least one is established in the EU. According to the Commission's initial estimate in 2011, a FTT could generate substantial revenue which could amount to EUR 57 billion per year (Table 1).[24] But the revenue will depend largely on the design of the FTT. The proposal of a FTT appeared in 2008, during the severe financial crisis.[25] The banking sector was accused of causing a crisis. In view of that, the FTT would be a small compensation for losses of many investors and a contribution to public finance sectors, which quite often decided to support banks threatened by bankruptcy. In the opinion of its proponents, the tax would also reduce the scale of speculative transactions and, as a result, prevent further financial crises.

The most significant drawback is the risk of capital flight from EU financial markets to countries with no such tax. Another is that proceeds can vary from year to year due to the volatility of financial transactions over time.

Since February 1, 2016, a bank tax, which is a form of FTT, has been operating in Poland [Piotrowski, 2017]. It is collected from some institutions and some financial transactions. The tax rate is 0.44% per annum on the value of assets above PLN 4.0 billion. It accounts for slightly over 1% of budget revenues (about PLN 4 billion in 2019, it is slightly less than EUR 1 billion).[26] If a similar tax was introduced throughout the EU and additionally ensured greater revenue in Poland, it seems that the Polish authorities would not have a compelling reason to question it. The loss for the budget would not be very large, and at the same time the new tax would significantly reduce the burden on the Poland's contribution to the EU budget calculated on the basis of GNI.

3. Financing of the New Generation EU Programme

The financial package agreed upon in 2020, next to the MFF, consists of the Next Generation EU programme (NGEU) which should directly help overcome negative consequences of the pandemic. This programme was adopted in July 2020 by the European

24 Earlier, the Commission estimated the annual revenues to be around EUR 30 to 35 billion, or 0.4 to 0.5% of the GDP of the participating Member States, https://ec.europa.eu/taxation_customs/taxation-financial-sector_en (accessed: 30.03.2021).

25 The Commission presented a first proposal for a harmonized FTT in 2011, The first proposal for the whole of the EU was presented by the European Commission in 2011 but did not reach a majority. Instead, the Council authorized Member States who wished to introduce the EU FTT to use enhanced cooperation. This procedure has not resulted in the adoption of FTT either [Kawecka-Wyrzykowska, 2014].

26 https://gospodarka.dziennik.pl/podatki/artykuly/6421011, podatek-bankowy-banki-klienci-rzad-kredyt.html (accessed: 18.03.2020).

Council and later confirmed in legally binding budgetary laws for 2021–2027. To raise the necessary funding for the Next Generation EU, the Commission will borrow up to EUR 750 billion on the capital markets on behalf of the Union (up to EUR 360 billion for providing loans to Member States and up to EUR 390 billion in form of grants), the bulk of it concentrated in the period 2021–2024 [Council Decision, 2020, art. 5]. Due to its high credit rating, the Commission is able to take out loans on good terms. Following its adoption by EU Member States in the Council on 14 December 2020, the Own Resources Decision was ratified by all Member States (by the end of May 2021)[27] in line with their constitutional requirements.

Contrary to transfers from the EU budget to Member States which are not repayable (they are jointly financed by all EU Members from own resources), the NGEU programme has to be repaid. The repayment will be funded from the Union's budget [Council Decision, 2020, preamble, point 19]. The implications for Member States will be, however, different, depending on the type of support within NGEU. It is assumed that the repayment of funds (the principal and the related interest due) which are used to offer grants will take place from future long-term budgets (mostly, from the new own resources to be introduced in 2021 and in the next years).[28] The borrowed funds which will be used to provide loans to Member States "should be repaid using the sums received from the beneficiary Member States" [Council Decision, 2020, the preamble, point 19]. Thus, Member States themselves will have to repay loans if they decide to take them. The repayment of funds borrowed for the purpose of NGEU will not require immediate additional national contributions to the long-term budget by Member States. It will start in 2028 and end by 31 December 2058 (in 30 years!). It is hoped that by that time, new own resources will be implemented and increase the revenue, thus making possible the repayment of the debt. The other funds for repayment of NGEU may come from increased national contributions, roll-over of borrowing, or a combination of these possibilities.[29]

For Poland it means that grants [estimated at EUR 29 billion, see more: Kawecka-Wyrzykowska, 2021][30] will be repaid from different resources financing the EU budgets. In line with the EU budgetary laws adopted in 2020, the assumption is that these will be mostly the new own resources. Poland has also applied for loans, which will have to be repaid by beneficiaries.

27 https://www.consilium.europa.eu/en/documents-publications/treaties-agreements/agreement/?id=2020025&DocLanguage=e (accessed: 18.03.2021).

28 It was clearly stated in the Interinstitutional Agreement: "The purpose of this Agreement" (…) is to introduce the "new own resources that are sufficient to cover the repayment of the European Union Recovery Instrument established under Council Regulation (EU) 2020/2094(1)" [Interinstitutional Agreement, 2020, preamble, point 1].

29 https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_935 (accessed: 14.05.2021).

30 https://www.consilium.europa.eu/pl/policies/eu-recovery-plan/ (accessed: 30.03.2021).

Due to the new commitments related to the envisaged borrowing of NGEU funds, an extraordinary and temporary increase in the own resources ceilings was agreed upon: "for the sole purpose of covering all liabilities of the Union resulting from its borrowing to address the consequences of the COVID-19 crisis" (it is to create NGEU), the ceiling for appropriations for payments and for commitments was each temporarily increased by 0.6 percentage points [Council Decision, 2020, art. 6].[31] Thus, these ceilings amount to 2.0% and 2.06% of EU GNI, respectively.[32] They will expire when all funds have been repaid and all liabilities have ceased to exist, by the end of 2058 at the latest.

4. Implications of changes in financing the Multiannual Financial Framework in 2021–2027 for Poland

In order to assess the implications of changes in financing the MFF in 2021–2027 for Poland, it is good to recall briefly the main sources of the EU budget revenue till the end of 2020 as they have all been slightly modified. Before that, they were as follows:[33]

1) traditional own resources, comprising part of revenue (80%) of customs duties levied on imports from outside the EU (20% of the revenue was retained by Members as the collection cost of the customs duties);
2) VAT-based resource calculated as a percentage of Member State's standardised value added tax base;
3) Gross National Income (GNI) – based resource which supplements the missing part of the budget revenue (in recent years around 70%) and is paid by EU Members in proportion to the share of their GNI in the total EU GNI;
4) other revenue, including taxes from EU staff salaries, fines etc.;
5) correction mechanisms, which were meant to correct budgetary imbalances between Member States' contributions. The beneficiaries of these rebates till the end of 2020 were several rich countries, which complained about their "excessive" net payments to the EU budget (Box 3).

31 For the purpose of the borrowing, the Commission will use the headroom – the difference between the Own Resources ceiling of the long-term budget and the actual spending. The headroom will serve as a guarantee that the EU will be able to make repayments under any circumstances. This will enable the EU to continue benefiting from its high credit rating, see more: https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_2465 (accessed: 14.05.2021).

32 Earlier, EU Member States agreed that own resources allocated to the Union to cover annual appropriations for payments should not exceed 1.40% of the GNI of the EU (and 1.46% of GNI in case of appropriations for commitments). This decision was motivated by Brexit implications and new financial needs, including digitalisation [Council Decision, 2020, art. 3].

33 https://www.europarl.europa.eu/factsheets/en/sheet/27/the-union-s-revenue (accessed: 30.03.2021).

All sources financing the EU budget are calculated independently. Therefore, the assessment of the effects of their changes has to be done separately for each source that has been modified.

Box 3. Rebates in financing the EU budget under the MFF 2014–2020

c) The 1984 correction mechanism for the United Kingdom was continued. The UK was reimbursed by 66% of the difference between its contribution and what it received back from the budget. The cost of financing this rebate was divided among EU Member States in proportion to the share they contributed to the EU's GNI.
d) Since 2002 Austria, Germany, the Netherlands and Sweden, which considered their relative contributions to the budget to be too high (the EU budgetary burden "excessive"), only paid 25% of their normal financing share of the UK rebate. These concessions were called "rebates on the British rebate".
e) For the period 2014–2020 only:
   - the share of the VAT-based revenue paid by Germany, the Netherlands and Sweden was 0.15% (instead of 0.3% as a rule);
   - Denmark, the Netherlands and Sweden benefited from gross reductions in their annual GNI contribution of (EUR million) 130, 695 and 185 respectively. Austria benefited from a gross reduction in its annual GNI contribution of EUR 30 million in 2014, EUR 20 million in 2015 and EUR 10 million in 2016.

It is worth noting that the beneficiaries of all rebates were rich EU Members, which belonged to the largest net payers to the EU budget (relative to their GNI). At the same time, the cost of financing these rebates was distributed between all other EU Member States, including the poorest ones.

Source: European Council [2013, point 118], see also: http://europa.eu/rapid/press-release_MEMO-14-130_en.htm and Council Decision 2014/335 (accessed: 18.03.2021).

The amount of the traditional own resources contributed to the EU budget will slightly decrease as the collection costs of the customs duties (revenue retained by Member States in their own budgets) were increased to 25% as of 1 January 2021 (from the previous level at 20% of the revenue). For Poland, it is the equivalent of EUR 46 million (5% of customs revenue in 2019) and this sum will stay in the national budget.[34]

The way of calculating the VAT-based contribution has not changed. However, VAT-calculated rebates were modified. These rebates consisted in a reduced taxable VAT base for three richer countries: Germany, the Netherlands and Sweden. A reduced base was 0.15%, while the normal call rate was 0.30%. The reduced contributions of those countries were financed by all other EU Members (including Poland) from their GNI-contributions. Due to their temporary nature, these rebates ceased to apply as of 2021. Consequently, Poland's benefit from the elimination of the cost of their financing can be estimated at around EUR 107 million in 2019.[35]

The net cost of the new resource (the plastic levy) since 2021[36] has been calculated at around EUR 180 million per year (point 2).

34 Own calculations based on: Budget [2019, p. 21].

35 Own calculations based on: Budget [2019, p. 16].

36 In order to enter into force, the Decision on the EU own resource's system in 2021–2027, adopted by the Council of the EU in December 2020, still requires ratification by 27 EU Members in accordance with their constitutional requirements.

An additional factor affecting Poland's contributions to the EU budget in 2021–2027 has been new rebates agreed upon in negotiations on the MFF 2021–2027. They are a side effect of Brexit and apply to five countries: Germany, the Netherlands, Austria, Sweden, and Denmark. Their objective is to avoid a significant and sudden increase in contributions, resulting from the elimination of their "rebates on the British rebate" as well as of the GNI-based rebate for Denmark, as of 2021 (Box 4). The new rebates were agreed upon by the European Council of July 2020 in form of lump sums reducing the GNI contributions of the abovementioned five countries. They were adopted for the whole period of MFF and confirmed in the Decision on Own resources of December 2020 [Council Decision, 2020a, art. 5(4)]. The total annual amount of those reductions is EUR 7.6 billion (in current prices). They are financed by all other EU Member States.[37]

Box 4. Background of the new rebates resulting from Brexit

By the end of 2020, four countries (Germany, the Netherlands, Austria, Sweden) benefited from concessions in financing the British rebate (from "rebates on the British rebate" – Box 3). Denmark enjoyed rebate on GNI-based payment to the EU budget. Brexit eliminated the rationale for the British rebate and associated rebates. Consequently, their beneficiaries would have to contribute more to the EU budget since 2021 (by the amount of their "rebates on the British rebate"), it is to pay 100% of their due cost of financing the British rebate, instead of 25%). Without such a change, all those countries would enjoy a privileged treatment. At the same time, however, this change would cause quite substantial and sudden increase of their contributions to the EU budget. For example, in 2019, Germany, the largest beneficiary of "the rebate on the British rebate" paid to the EU budget only EUR 322.2 million as its participation in covering the British rebate. Full financing would cost Germany around EUR 1.3 billion. At the same time, France – not enjoying the rebate – paid EUR 1.3 billion and Italy – not much less (EUR 950.2 million).

Source: [Budgets, 2019, p. 21].

Poland's cost of financing the rebates for Germany, the Netherlands, Austria, Sweden, and Denmark can be estimated at around EUR 273 million annually in 2019 prices (assuming Poland's share in the EU27 GNI at 3.59%, which was the case in 2019).[38] Thus the total net cost of changes in financing the MFF 2021–2027 for Poland can be roughly estimated at EUR 300 million per year (without direct financial implications of Brexit) – Table 4.2. This reflects an additional contribution from Poland to the EU budget since 2021 which results from modification of instruments financing the EU budget in the years 2021–2027.

Let's stress once again that this is a very hypothetical sum, relating only to modifications in the ways of Member States' contributions to the EU budget. The estimate is

37 The scale of the GNI reduction is as follows (in EUR billion, per year): for Austria 0.6; for Germany – 3.7; for the Netherlands – 1.8; for Sweden – 1.1 and for Denmark – 0.4. Those amounts are expressed in 2020 prices and will be adjusted to current prices [Council Decision, 2020, art. 2(4)]. Let's notice that the sum of the new rebates (EUR 7.6 billion) is higher than the amount of British rebate in recent years (EUR 5 billion) [Budgets, 2019, p. 21].

38 Poland's share in financing the new rebates has been estimated as Poland's share at 3.59% multiplied by the total sum of new rebates amounting to EUR 7.6 billion.

based on many simplifying assumptions. They include among others: 1) not all calculations were made at comparable prices (although most of the data was at 2019 prices); 2) estimates reflected historical data (mostly for 2019), and not the 2021 values (including the key calculation assumption regarding Poland's share in EU27 GNI). The available EU budget for 2021 was prepared and adopted according to assumptions within MFF 2014–2020, in a situation where the new own resources decision did not yet enter into force (including payments from the plastic levy). Therefore, it could not be useful for verification of the author's estimates.

Table 2. Estimate of Poland's financial implications resulting from changes in resources financing the UE budget in 2021–2027 (EUR million, 2019 prices)

Type of change	Direction and amount of change
Decrease of traditional own resources (revenue from tariffs)	−46
Decrease of contribution based on VAT (due to elimination of VAT-based rebates)	−107
Increase resulting from a plastic levy	+180
Increase resulting from the new lump sum rebates	+273
Net result	+300

Source: summary of the estimates presented in the main text.

Conclusions

Establishing a new resource of the EU budget is a milestone from the point of view of financing this budget. In particular, the decision to adopt the plastic levy as of 1 January 2021 represents the biggest change in EU own resources system in years.[39] The last major reform of financing the EU budget took place in 1988 when the GNI-based resource was created by the Council Decision 88/376/EEC. Thus, the plastic levy is the first, in many years, completely new source of increasing the income of the EU budget. Earlier attempts to establish a new income have proved fruitless. UK in particular was against new incomes. The UK's exit from the EU not only weakened this opposition, but also provided the impetus to reform the revenue system (Brexit resulted in a big hole in the budgetary revenue as the UK was the second biggest net payer to the EU budget). The acceptance of the new revenue by Member States has been strengthened by the new huge financial needs of the

39 Let's notice in this context that a kind of paradox was that after the end of the European Council meeting in July and December 2020, everyone discussed the "success" of the summit, and few commentators noted that EU leaders also made a decision on new levies at the EU level: introducing plastic levy from January 1, 2021 and committing to apply further fees and taxes.

EU (to fight climate changes, accelerate digitization strengthened by the pandemic, protect external borders, fight with the effects of a pandemic, etc.).

Although the Decision on Own Resources includes a roadmap to introduce new instruments to finance the EU budget in the years 2021–2027, its entry into force is not obvious (except for a plastic levy). The Decision contains "soft" commitments as regards the new resources: "the Commission will put forward in the first semester of 2021 proposals on a carbon border adjustment mechanism and on a digital levy, with a view to their introduction at the latest by 1 January 2023. Moreover, the European Council invited the Commission to put forward a revised proposal on the EU Emissions Trading System, possibly extending it to the aviation and maritime sectors" [Council Decision, 2020, preamble, point 7]. The main problem is that any change of the decision on own resources requires the consent of all EU Member States [Art. 311 of TFEU]. One reason of the reluctance of Member States against proposed resources is their fear that such decision would limit their financial sovereignty, as it might be a first step towards increasing the powers of the EU institutions in a sensitive fiscal area. UK's exit from the EU has increased the chances of finding an agreement, but differences of opinions remain large. They reflect not only the fear of the majority of countries transferring excessive competences to the EU institutions (the Commission), but also a different level of economic development, different economic structure and model of economic policy, etc. These differences affect the ability of countries to bear additional burden as a result of introducing new financing sources of the EU budget. The other reason is a fear of an unequal and unfair burden of the new taxes. However, without additional sources of funding, Member States will face in the future a need to contribute more from the GNI-based resource. The alternative, taking into account the need to balance the EU budget, will be insufficient funds to finance ambitious EU goals (e.g. climate protection, and also the repayment of the NGEU-financing debt) and the necessity to reduce expenditures. Such a perspective may turn out to be crucial for overcoming the resistance of the EU states to introduce new, "genuine" resources of financing the EU budget.

Poland's contribution to the UE budget increased as of 2021, in absolute terms, mainly as a result of the extension of the list of own resources (with a plastic levy).[40] The increase has been estimated at EUR 300 million annually, it is slightly more than 6% of Poland's contribution to the EU budget in 2019 (EUR 4.9 billion). Due to many assumptions made for the calculations, this figure does not reflect the actual increase in the cost of financing the EU budget by Poland, but the possible order of magnitude of changes. This increase is a net effect of two opposing tendencies: 1. elimination of the cost of financing VAT

40 We ignore here other reasons for the increase in the contribution to the EU budget, e.g. faster GNI growth in Poland than in other EU countries and the resulting increase in Poland's GNI-based contribution.

rebates for several EU Members and changes in traditional own resources, 2. the implementation of a plastic levy and the necessity to finance new rebates offered since 2021 to several wealthy countries. Also, let's remember that this cost would be higher if it was not a rebate for Poland on plastic levy. The rebate will expire in 2027. Such perspective should encourage Poland and other countries to introduce measures aimed at greater segregation of plastic waste and of other rubbish (the levy is based on the quantity of unrecycled plastic waste).

NGEU implications for financing the EU by Poland and other EU Members will appear mostly after 2027 when the repayment starts and more money is needed. In the period 2021–2027 they mean increase of the own resources' ceiling for the purpose of covering all liabilities of the Union resulting from its borrowing to address the consequences of the COVID-19 crisis. Thus, the Next Generation EU does not require immediate additional national contributions to the budget by Member States.

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POLAND'S IMPLEMENTATION OF UE VALUES

Abstract

The subject of the study is internal threats to the functioning/existence of the EU and NATO. These threats are a consequence of the undermining of "common values", which are the axiological foundation of the institutionalised cooperation of the western hemisphere. These values are: fundamental human rights and freedoms, democracy and the rule of law, the prohibition of discrimination, and the principles of the United Nations Charter. "Values" are shared by the founding states of both Organisations and common to both Organisations. The sources of threats are those member states – the "new" members of both Organisations – who violate the "common values" in their internal and international relations. The study focused on the case of Poland; a "new" member of the EU and NATO. The case study was complemented by a comparative analysis, which helped to create the depth (perspective) of the study. For the comparative analysis, the following were selected: Hungary – an EU and NATO member. The comparative perspective revealed the scale of threats to (both) Organisations. The scale of threats is derived from the situation: many violators and many violations. For violations of "values" are neither the practice of a single state nor a single event. Seeking to answer the potential question of whether "new" members may be surprised by demands to respect values and consider that they have not consented to be bound by them, the path to membership of the Organisations is analysed. "The path" was analysed from the perspective of the importance attached to "values" – treated as a *sine qua non* of admissions. The result of the study was an evaluation of potential responses from threatened Organisations.

Keywords: UE, NATO, Poland, royal road, NATO enlargement, EU accession
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Introduction

Year 2020, in intra-EU relations with Poland, determined an increase in the level of a dispute "over the rule of law"; the dispute lasting since 2015. An initial turning point of the dispute was the systemic crisis connected to the appointment of judges and functioning of the Constitutional Tribunal [Szuleka, Wolny, Szwed, 2016]. In the following years, the critical comments of the practice of the Polish authorities (legislative, executive and – a part of – courts) were made by the EU bodies (among others the Parliament, the Tribunal and the Commission), the Venice Commission (the assisting body of the Council of Europe) as well as the UN system. The divergence of the approaches is increasing, the functional and institutional methods of dispute management turned out unreliable; as evidenced by its duration.

The essential determinant of the public approach of the Polish authorities is indicating that: firstly, the dispute is (exclusively) intra-Union. The functioning of Poland as a member of the NATO – relations inside the NATO are uninterrupted; secondly, claiming from Poland (and other EU members) the respect for "the rule of law" is exceeding the functions and competences of the EU, as respecting the "rule of law" does not fall within the responsibilities of an EU member and primarily the EU is not entitled to assess the functioning of a member through the prism of the "rule of law". Additionally, assigning a weight to the "rule of law" from the perspective of the functioning of an integration group is the specificity of the EU, diverging from the requirements of the NATO.

The purpose of the study presented in this chapter is indicating *iunctim* between the EU and NATO, which are the systemic values. What enabled the European and transatlantic integration in the formula "security community" ("shared identities, values, and meaning") [Adler, Barnett, 1998, p. 30] is, thus, the existence of a common core embracing the values. "Security community" – such as the EU and NATO – are not only embedded on the foundation of the common systemic values; but also these systematic values and the obligation to respect them do not belong to the exclusive sphere of the internal affairs of a community member. Poland consistently infringing the "common European principles and systemic norms" threatens the NATO's capability to implement the strategic aims of the Alliance. In the study, there has been presented the critical analysis of Poland's liabilities as the NATO member in terms of the "rule of law" through the prism of primary law and NATO's *acquis*. The comprehensive picture of Poland's intra-alliance relations has been achieved by complementing the analysis of legal norms with the practice of their application, as well as representative political declarations.

Consequently, the case of Turkey, which is a member of NATO (it is not a member of the EU), was not included in the objective of the study thus set. The case of Turkey is relevant to the functioning and future of NATO as a security community, its direct consequences do not hit the European integration [Menkes, 2021]. Of course, the scale of violations of European common values in Turkey is a barrier to EU-Turkey accession negotiations. On the one hand, the EU and NATO are separate organisations, but on the other hand, they are connected by a feedback loop.

The precondition for European integration was and is the NATO umbrella. A necessary condition for NATO to carry out its functions is a state in which the members of the organisation are allies and their socio-economic development is adequate to the challenges.

The thesis of the study is recognition that Poland infringing the "rule of law" threatens the Alliance, its coherence – that the systemic practice in Poland threatens the Poland's membership in NATO, the Alliance defending its own identity and capabilities to take actions may critically evaluate Poland's membership. The thesis has its explicit basis in the statement made during the election campaign by the US President Biden: "And NATO is in the risk of beginning to crack because they don't doubt – they doubt our – whether we're there. You see what's happened in everything from Belarus to Poland to Hungary, and the rise of totalitarian regimes in the world, and as well, this president embraces all the thugs in the world (Joe Biden answered the voters' questions)" [ABC News, 2020].

The Alliance disposes of a poorer array of instruments of managing the dispute with Poland in comparison to the EU. In the catalogue of instruments, the EU disposes of are "money for the rule of law" resulting in suspension/restriction of the rights of Poland to exercise the rights of EU membership, the cost of such a decision would be high for the EU; however, it is the cost, which the EU can bear (it does not result in EU's incapability to functioning). In the case of NATO, the geographical continuity of the Alliance requires Poland's full presence in the military cooperation; possible transformation of the plurilateral ties into the bilateral one (s) would lower Poland's political rank; however, it would not weaken Poland's security. It is, therefore, even more important to verify the Alliance's capacity to self-regulation.

1. Polish road to European and transatlantic institutions

The fall of the Soviet Union and disintegration of the Eastern bloc opened up new opportunities and meant new challenges for European and transatlantic institutions. The environment of security has radically changed; Europe and the world have become safer, but less stable.

The "Velvet Revolution" abolished external barriers to deepening and extending the European integration; the European Union was established (on 7 November 1992, the Treaty on European Union was signed), to EU acceded Austria, Finland and Sweden.

Simultaneously, the EU Member States gained the opportunity to use the "peaceful dividend" [Intrilligator, 1996; Marshall, 1993] to finance the social and economic development, and they eagerly took advantage of this possibility.

During the "Cold War", NATO – the collective self-defence Alliance defending the (territory of) members was defending (common for all members) values [NATO, 1998].

The challenge of the new situation was reduced to the choice of "out of area" or "out of business", as indicated Senator R.G. Lugar [Asmus, 2005].

The Soviet Union threat disappeared; the Alliance was established to fight off this threat, consequently, freezing the Alliance (preserving the Alliance in the "old" formula – adapted to the challenge from the USSR and the Eastern Bloc during the "Cold War" period, i.e., the Alliance as it was) would prompt one to ask: *What is NATO for?* [Tuchy, 1993]. And the Alliance has changed.

In Poland, after "the elections of June 89" a real consensus on the accession to European and transatlantic institutions was generated. However, the support for Poland to accede these institutions was different depending on the specific institution. All parties advocated for the accession to NATO[1] [Menkes, 1997]. The project to accede the Council of Europe was criticised by the "nationalist – right-wing" [Menkes, 2013]. There were contested the content and position of "human rights" in the catalogue of the systemic norms in Poland and the possibility to appeal to the European Tribunal of Human Rights – which was seen as the weakening of the "state authority", sovereignty.

Over the accession to the EU a fierce battle was being fought, in which the anti-European "nationalist – right-wing" consistently consolidated; it lost the battle [referendum] over the accession to the EU, but it is/was waging war. This "nationalist – right-wing" rejects/rejected the "Western values" and (European and transatlantic) community based on them, it defends sovereignty understood as the right of the state-Poland to reject the implementation of, among others, fundamental human rights and freedoms.

The consensus comprised two elements – "yes" for the accession – and, accession "already". The justification of the support for the quick accession was not officially presented; however, it is reasonable to assume that Polish politicians were afraid of "closing (in EU Member States and NATO) the window", which favoured the accession and persistent location of Poland in a different space than the Western one.

There were different concepts and practice of the EU and NATO based on them. In the case of the EU, the coping strategy was indicated by the German Foreign Minister, H.D. Genscher. According to it the states of Central and Eastern Europe were not ready for the EU membership, the inability of economies to compete on the European market

1 In Poland, in the public space the pacifist movement is not present.

was the aspect the most frequently mentioned. The replacement of the membership was supposed to be the European agreements[2] [Menkes, 1993].

In the case of the NATO, there were numerous arguments against the accession of the states of Central and Eastern Europe to the Alliance; indicating both the elements of their social and systemic characteristics, post-Cold War reality and financial costs of adjusting the Alliance to the enlargement. The replacement of the membership was to be the *Partnership for Peace* (and the enhanced version of it – *enhanced Partnership for Peace*).

Numerous factors decided about the fact that in this fundamental dispute over the accession of the states of Central and Eastern Europe to the EU and NATO, a draw was achieved with the indication of those aiming at membership. The decisions of the NATO Summit in Madrid were the breakthrough ones [NATO, 1997]. Their participants decided that „as a significant step in the evolutionary process of opening the Alliance, we have invited three countries (Czechoslovakia, Poland and Hungary – J.M.) to begin accession talks". The aim declared was "the realisation of our vision of a just and lasting order of peace for Europe as a whole, **based on human rights, freedom and democracy** (bold – J. M)."

Already the differentiation of the support for the integration (between the NATO and the Council of Europe and the European Union) indicated that the Polish society and political parties failed to notice the common core of the European and transatlantic integration institutions, which are "values" and on which foundation the "community of values" is based [Menkes, 1999]. This was the original sin of Poland's integration and is the source of conflict – Europe/Allies [Menkes, 2009]. Poland is in a state of declared war with the EU and the Council of Europe [Venice Commission]; in this case, both parties are aware of the "dispute". Poland is on the brink of war with the NATO; with regard to this war, in the public debate in Poland the self-awareness of its duration was not revealed.

Aiming at the admission to the EU and NATO, the authorities in Poland did not hear or did not understand the NATO ministerial communiqué on 1 December 1994 (*Final Communiqué*) according to which 5. Our Heads of State and Government reaffirmed that the Alliance, (…) remains open to membership of other European states in a position to further the principles of the Treaty and to contribute to the security of the North Atlantic area. We expect and would welcome NATO enlargement that would reach to democratic states to our East, as part of an evolutionary process, taking into account political and security developments in the whole of Europe. Enlargement, when it comes, would be part of a broad European security architecture based on true cooperation throughout the whole of Europe. It would threaten no one and would enhance stability and security for all of Europe. **The enlargement of NATO will complement the enlargement**

2 The disagreement to admit the candidate states to the EU was so strong that the EU did not even agree on recording in the European Agreement with Poland that Poland's membership is a common aim – it was recorded, and after tough negotiations, that it is the aim of Poland.

of the European Union, a parallel process which also (bold – J.M.), for its part, contributes significantly to extending security and stability to the new democracies in the East [NATO, 2002]. The indicated parallelism of processes determined the "royal road" of the states of Central and Eastern Europe to membership in the EU and NATO [Rühle, Williams, 1995, pp. 84–88], which was simultaneously compatible with the perception of transatlantic relations declared in the *Transatlantic Declaration on EC-US Relations, 1990* [Europarl.europa.eu, 2021].

The interdependence of the admission of the states of Central and Eastern Europe to the NATO and EU was agreed on in the agreement of the EU with the USA: "As to the accession of new members to NATO and to the EU, these processes, autonomous but complementary, should contribute significantly to the extension of security, stability and prosperity in the whole of Europe" [Europarl.europa.eu, 2021]. Simultaneously, the parties of this agreement equally clearly indicated the expectations with regard to the systemic frameworks of transformation in Central and Eastern Europe and systemic conditions of the admission: "We will support the countries of Central and Eastern Europe in their efforts to restructure their economies and strengthen their democratic and market institutions. Their commitment to democratic systems of government, respect for minorities, human rights, market-oriented economies and good relations with neighbours will facilitate their integration into our institutions".

2. In what kind of institutions (the EU and NATO) is Poland – what kind of Poland is in institutions?

At the end of the second and the beginning of the third decades of the 21st century, the internal and external conditions of the realisation of the strategic mission by NATO significantly changed. Hence, the existential threats for the Alliance are located both outside (in the international environment of the Alliance) and inside the Alliance. The object of the following analysis are threats located inside the Alliance – in member states and their bi- and plurilateral relations. To these threats belong: – the evolution of the connected by the Washington Treaty community of states from a *like-minded country* to a group of a *differently acting country*. If thoughts are invisible, actions cannot be disregarded; a threat of involving the Allies in an unwanted war by a member of the Alliance. The source of these combined threats are states infringing the fundamental values of the Alliance – in these countries the "rule of law" is breached [Menkes, 2019; Menkes, 2018]. Those, who govern, make attempts to legitimise the defence and efforts to expand the authority by aggressive – referring to nationalism foreign policy, in frames of which they create conflicts with the neighbouring states, not excluding attempts to change borders through the use of military force.[3] The Alliance faces an alternative: it can either exclude the states infringing the systemic principles – this, however, threatens the capability to collective self-defence (these are states of a significant meaning); or replace the plurilateral Washington Treaty by a network of bilateral agreements. The systemic differences among the states of "old Europe" and "new" members of the Alliance are strong, and the potential for convergence is limited; even if they become similar, it will occur slowly, and in the meantime, recurrence will take place.

The options can be ties in a formula of "Hub and Spoke" (H&S). Within the framework of this system the "hub-state" (these were the USA in Asia) – either the USA or the EU were bound by allied agreements with (single) states of the geopolitical sub-region, which is Central and Eastern Europe and South Europe. This system generates the architecture of security based on bilateral agreements, different from the plurilateral architecture of security (existing in Europe). The order created in the sub-region would include a military component; irrespective of the fact whether the "hub-state" were the USA or the EU, it would be an order with features of the "Pax Americana – Long Peace". It would protect the sub-region from the Russia's domination.

The advantage of the "H&S" agreement – from the perspective of "H" – is the conditionality of the guarantee, translating into security against involving "H" in an unwanted war by "S". Simultaneously, the "H&S" relations are functionally enclosed by the military presence of "H" on the territory of an ally. However, this relation is also a non-return one;[4] "H" decides about the reaction – the ally is the point of reference for the relations of the USA – the strategic rival.[5] "S" is deprived of the choice regarding the reaction to the actions of "H". Concluding an "H&S" agreement states not willing to leave the "Western" hemisphere recognise "H" as a predictable and rational state, which respects common values. An element of this faith from the perspective of "S" is the desire to embrace them with a "nuclear umbrella".

American military bases in Poland (Radzikowo) and in Romania (Deveselu) are onshore bases (operational component) of the ballistic missile defence system Aegis Ashore. In each basis there will be a fire-control radar together with a command, control and communication team as well as SM-3 (Standard Missile-3) launcher foundations.[6] These bases

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3 According to the principle of *uti possidetis*, the boarder change can be brought about through the use of peaceful measures.

4 It is, moreover, the nature of such a relation in international relations as well as e.g. in transport; centralisation and lack of flexibility is the characteristics – the disadvantage of such a relation.

5 Placing e.g. sub-systems of American defence in Romania or Poland directs to these states the first attack preceding the attack directed to the territory of the USA.

6 The establishment of these bases, according to *2017 National Security Strategy* [Whitehouse.gov, 2017], is connected with fulfilling the responsibility: "Our fundamental responsibility is to protect the American people, the homeland, and the American way of life" – see: Report on *Brookings experts on Trump's National Security Strategy* [Brookings.edu, 2017]. In *2019 Missile Defence Review* [Defense.gov, 2019] showed that threats may

are regarded by strategic rivals as a threat [Defence24, 2016]; hence, the price for being under the "umbrella" is being a "target".

The "H&S" system replicates single bilateral relations – its nature is the lack of direct ties between "S (states)", whereas systemness is the secondary effect of the reproducibility of agreements. In the case of a plurilateral alliance-system, a tie or ties connect(s) everybody. The choice between the systems – i.e. plurilateral or "H&S" – has to consider disputes between "S" and "S" vs the third parties as well as the "S" capability to participate in dispute management according to the UN Charter and the sense of belonging to the civilisational community based on values.

What kind of the Alliance?

When Belgium, Denmark, France, the Netherlands, Luxembourg, Norway, Portugal the USA and Italy were signing on 24th August 1949 the North Atlantic Treaty including the key article 5, they were taking an unprecedented decision. For the first time, a group of states constituted, which signed a collective blank bill of exchange; liability to unconditionally provide assistance to each member of the group that will be militarily attacked – recognising the attack against an ally identically as an attack against oneself. This unconditionality meant – both – accepting the possibility and rejecting this possibility that the attack against the ally will be provoked, caused by aggressive behaviours of an ally drawing the sense of power from the affiliation to the group. Simultaneously, the parties did not refer to the potential benefits of choosing/supporting an ally at the expense of the other one with a dispute (between the allies) or disturbing of peace as a result of a military attack inside the Alliance. Such a decision was not only unprecedented, but preliminary meant the rejection of the elaborated and applied strategy of not issuing blank bills of exchange, embracing the defence liabilities in the foreign policy of Great Britain and the USA.[7]

The reason for taking the decision was obvious. It was the recognition of the existential threat for the West from the Soviet Union. This external threat was directly indicated; the Minister of Foreign Affairs of Belgium – P.H. Spaak said during the Session of the UN General Assembly the following: "Savez-vous quelle est la base de notre politique? C'est le peur. La peur de vous, la peur de votre Gouvernement, le peur de votre politique" [Cvce.eu, 2021] addressing these words to the Minister of Foreign Affairs of the Soviet Union – A. Wyszyński.

come from South Korea, Iran, Russia, China and, besides the USA – sanctuary, American troops abroad, as well as US allies and partners are also protected [see: Grego, 2019].

7 From this strategy resulted, among others, the failure to accede to the "congress system" by Great Britain, and the League of Nations by the USA.

The "founders of the Alliance" were also aware of internal threats. The Secretary-General of the Alliance, H.L. Ismay indicated as the aim of the Alliance: "keep the Russians out, the Americans in, and the Germans down". The symbolic and real "Germans" threatened to involve the allies in the external and internal conflict. The sensitivity of the Alliance comprising: opponents/enemies in recent wars; states systemically differentiated, etc. was substantial. The Alliance turned out resilient to all these risks, and the participation in it was a milestone on the road to the European integration – replacing the (previous) hostility by the sense of community and convergence of the allies.

This Alliance was assigned a character of the community of values; according to the Preamble of the North Atlantic Treaty: "The parties (…) are determined to safeguard the freedom, common heritage and civilisation of their peoples, founded on the principles of democracy, individual liberty and the rule of law. They seek to promote stability and well-being in the North Atlantic area". Hence, the Preamble was a liability not to admit to the Alliance (suspend in member rights, or exclude) states, which were not democratic or did not protect the freedoms of a unit or were not ruled by the law.

The practice of implementing the norms of the Preamble – from the beginning – was different. On the one hand, Spain was admitted to the Alliance in 1982 after establishing democracy and the rule of law. On the other hand, on 4 April, Portugal was admitted to sign the Treaty, Greece was a full member of the Alliance in 1967–1974 (in the period of military dictatorship, which overthrew democracy), Turkey uninterruptedly – since 1952 – belongs to the Alliance (despite military coups in 1960, 1971, 1980 and 1997). The Alliance turned out an efficient tool ensuring security of the parties in frames of the collective defence. Although some members of the Alliance did not fulfil the systemic conditions, they did not involve the Alliance in international conflicts with the use of force with the states outside the Alliance and refrained from transforming the disputes with allies in situations threatening peace and security – they refrained from the use of force against the allies.[8]

What kind of Poland?

Inviting, in 1999, to sign the Treaty by Poland,[9] Czechia and Hungary, and after 2004 other states from Central and Eastern Europe were recognised to fulfil the systemic criteria of "being invited". The invitation to sign the Treaty, on the one hand, did not formally grant "democracy, freedom of an individual and the rule of law" in the state invited. On

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8 The closest to this situation were Greece and Turkey in 1974, when first the Greek junta attempted to change *status quo* on Cyprus and in response to that, Turkey invaded the Island and since then it has been occupying *de facto* its Northern part granting the territory the status of an unrecognised unit.

9 When the "youth" of democracy was raised as an argument against the invitation of Poland, it was considered as irrational – resulting from the aversion to Poles/Poland.

the other hand, those invited were informally informed that after the accession they will be obliged to adjust to the standards of the Alliance, e.g. in terms of *civilian control of the military* [Kohn, 1997].

3. The end of gap years

Establishing NATO, the founders wanted to recognise that the systemic differences among the members of the Alliance will never threaten either by creating a military conflict among the allies or by involving the allies in the unwanted war. This, optimistic, forecast may not, however, prove itself when confronted with the policy conducted in the 21st century by some states, the members of the Alliance. Their authorities – failing to know/respect/understand the common values – recognising the foreign policy as one of the instruments of governing (besides breaching the human rights, corruption, etc.) may trigger an international conflict.

Rulers in these states are rational[10] and unpredictable. In the group of these states, Turkey and Hungary stand out; but they are not the only ones. The Greece's policy towards Macedonia – forcing the change of the name of the state, the adoption of the name North Macedonia recognised as a condition to allow the admission of Macedonia to the United Nations and the institutions of the UN system as well as the EU and NATO proves the instrumental treatment of the foreign policy by the Greek government, the foreign policy is the hostage of the national policy [Gotev, 2018].

The case of Hungary and not only

On 26 October 2020, the Hungarian Ambassador, István Íjgyártó was summoned to the Ministry of Foreign Affairs of Ukraine. The aim of the summons was handing a protest note to the Ambassador, it was done – during conversation – by the Minister of Foreign Affairs, Dmytro Kuleba.[11] The Ukrainian action – the protest was a reaction to the public call of the Ukrainian citizens to vote in elections for candidates of the Hungarian minority party (Society of the Hungarian Culture of Transcarpathia) by the Minister of International Economic Relations and Foreign Affairs of Hungary, Péter Szijjártó. The content of the note was as following: "The ministry at once called on the Hungarian side to respect the law of Ukraine and not take steps that indicate direct interference in the internal affairs of Ukraine and do not correspond to the good-neighbourly character of Ukrain-

10 This rationality is not based on common values.

11 It occurred, despite the assessments that the President Trump suspends their implementation being, however, aware that they will enter force automatically, in 2021 [Businessinsider.com, 2020].

ian-Hungarian relations (…)" [Facebook.com, 2021]. The Minister Kuleba also opposed to singing the Hungarian anthem during an official meeting of the Ukrainian territorial gatherings (in Siurte) [RadioFreeEurope RadioLiberty, 2020]. The Minister rejected the allegations of intimidating the Ukrainian citizens belonging to the Hungarian minority. Since 2017 Hungary has been hampering the NATO's cooperation with Ukraine. Ukraine issued a ban on entering the territory to, among others, Istvanowi Grezsa, Government Plenipotentiary for the Ukrainian Transcarpathia [112.international, 2020]. Hungary is, thus, protesting against introducing – under the Act on Language – the obligation to speak Ukrainian in public schools.

The October (2020) local elections in Ukraine did not change *status quo* in Transcarpathia; the victories of the Ukrainians of the Hungarian nationality were the victories of those governing – like in the majority of electoral constituencies in Ukraine [Semchuk, 2020].

Slovakia, after Ukraine, is another field of confrontation with a neighbouring state – a confrontation whose tool is a national minority. And this confrontation is progressing.

The members of the government in Hungary reject the norms constituting a "hard core" of human rights and freedoms. Katalin Novák – the Minister for Family, in the statement posted on the social media site [Facebook] negated the prohibition of discrimination on grounds of sex claiming that: "But it may be easier to say what they should avoid: Do not believe that women have to constantly compete with men. Do not believe that every waking moment of our lives must be spent with comparing ourselves to men, and that we should work in at least the same position, for at least the same pay they do (…)" [Kovács, 2020]. Obviously, this statement may be counted to a number of misogynistic and anti-human rights statements of those governing in Central, Eastern and South Europe recognising themselves as the members of the nationalist – right-wing, with their statements they place themselves and their parties outside the community of European values. I exclusively refer to the statements because the views of the members of *Fidesz* and similar groupings are difficult to get to know.

The case of Poland and not only

From the perspective of respecting the common values of the Alliance, i.e. human rights and freedoms, the rule of law, democracy and market economy, Hungary is not an exception. It is easier to indicate those "new members of the Alliance" admitted after the "Cold War" that systematically and systemically infringe these principles than those that respect them. An essential difference between them and the cases considered above is them not conducting an aggressive foreign policy towards their neighbours. It is illustrated by the case of Poland; the state in which circumstance, the infringement of human rights and freedoms, democracy, the rule of law was, frequently, confirmed by the EU institutions, the institutions of the EU Member States (among others courts of law dealing with cases connected to the application of the European Arrest Warrant (EAW) as well as parliaments [among others, the British regarding persons identifying themselves with LGBTIIQ; Achler, 2020][12] and those that replace the market economy with kleptocracy. In Poland, governing is based on feeling and spreading hatred towards everyone considered as different or strange, aiming at destroying internal social cohesion and civilisational cohesion of the EU and NATO. The concentration of the ruling parties and their social base in the sphere of interstate relations is, however, restricted to attacking the "strangers" insensitive to these actions. The demands for reparations made by Germany, for the defence against the "Act 447"[13] or the amendment of the Act on the Institute of National Remembrance [*Instytut Pamięci Narodowej*, IPN] in 2018 were unnoticeable by those, who were attacked[14] – did not threaten the Alliance to involve it in an unwanted conflict. It does not mean that they are meaningless because they indicate the way how the foreign policy is treated by the rulers – readiness to defend the power under the umbrella of defending the national interest as well as the existing and created group of the recipients of the right-wing nationalistic ideology.

Poland, which so far has contented itself with rhetorical attacks on Germany and France, attacks that were addressed only to the "inside" to the voters of the ruling party, has entered into a sharp legal dispute with the Czech Republic. By violating the acquis, Poland caused damage to a neighbouring state [Barcz, 2019].

Foreign Minister Rau pointed to Turkey as a "key ally" of Poland [Rau, 2021].

The case of Poland and Hungary

Both countries are systematically separating themselves from the mainstream of European integration. This is the policy they pursue – among others – in the European Parliament. Hungary has withdrawn from the European People's Party, the largest party in Parliament. Poland is attempting to form a bloc of anti-European parties in Parliament.

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12 See: Achler [2020].

13 Justice for Uncompensated Survivors Today Act.

14 On the other hand, the government formed by the Law and Justice Party [*Prawo i Sprawiedliwość*, PIS] recognises/recognised the President Trump and the Prime Minister Netanjahu as the closest partners, on the other side the external partners by themselves were, on several occasions, using *hate speech* on the internal forum treating it as a tool to communicate with the proponents-voters.

Conclusions

The bipolar order was a stable one; this stability was co-created by the *West*. The Soviet Union in its policy guided by unreasonable values and aims conducted it in a predictable way. The systemic violence, on which the imperial system inside the Eastern block was based, pressed the vassalised states for rationality and predictability (in relations with the Soviet Union and reciprocal) within the block. One consequence of the collapse of the Soviet Union – the disintegration of the block was/is instability.

The *West* recognised that the measure to prevent the Eastern and Southern neighbourhood of the EU and NATO from falling into the space persistently unstable is the admission of the states of the region to the NATO and EU. The admission, which element is – demanded – systemic transformation of these states, that in these states the market economy will be introduced as well as the norms and institutions of a democratic state of the rule of law. The transformation turned out, however, more complicated than assumed; quickly it turned out that the "market economy" is not only the market, but also ethics; it turns out that democracy and the rule of law are not only norms and institutions, but also internalisation of values.

The admission of the states of Central, Eastern and South Europe to the EU and NATO did not ensure the stable neighbourhood in the East to the *West*, but also introduced instability to the inside of these institutions. The states of Central, Eastern and South Europe – regularly – have governments which are irrational and unpredictable. Perhaps, a way to deal, by the EU and NATO, with the challenge, which is the serious infringement by Poland and Hungary of values constituting the foundation of these institutions is a turn-back of these institutions on the *royal road* and a parallel cooperation in support of systemic transformation of the EU and NATO members embracing not only the re-establishment of the norms and institutions of democracy and the rule of law, but preliminary internalisation of these values within the societies of the member states.

The conflict between Poland and Hungary and the EU, its institutions, is escalating. Poland and Hungary are sharpening their language and taking further steps towards confrontation.

To sum up, members of the EU are states that would not be admitted to the EU because they cannot respect common European values. Internal changes took place during the membership, each possible scenario (exclusion/withdrawal, tolerated conduct, return to democracy) weakens European integration.

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FINANCIAL DIMENSION OF POLAND'S PARTICIPATION IN THE EUROPEAN ARCHITECTURE OF DEFENCE – COMPARATIVE ANALYSIS

Abstract

The main objective of the study is to research Polish financial expenditure on "defence" – "defence" realised in an institutionalised formula of NATO's "collective self-defence". There have been analysed the structure of the NATO's "defence" budget, including in particular the comparison of defence expenditure of Poland and the EU in absolute values as wells as the share of the GDP. There have also been analysed the distribution of the defence expenditure by the main category – defence equipment, personnel, infrastructure and other expenditure of the particular EU and NATO member states. Additionally, there have been researched the cooperation between the EU and NATO in terms of the security and defence policy. In the study, the dogmatic and legal, comparative and statistical methods have been applied. The study has revealed that since 2000 the NATO's total defence expenditure has been steadily growing. Similarly, Poland's defence expenditure has been increasing, placing Poland in the sixth place in terms of defence expenditure among NATO EU members. NATO allies on average and NATO EU members and Poland allocate the most funds of the defence budget to personnel and the least to infrastructure.

Keywords: defence expenditure, distribution of defence expenditure, Poland, the European Union, NATO
JEL Classification: H56; K33

Introduction

The objective of the study is assessing, from a comparative perspective, Polish financial expenditure on "defence", "defence" realised in an institutionalised formula of a "collective self-defence" of the NATO. The basis for determining the amount of the expenditure is Polish information (and presented by other states) – official data. These data illustrate both absolute values and the share of expenditure of the GDP. The method of counting the GDP is common for all analysed member states of the NATO and EU. However, while counting the GDP, the purchasing power parity (PPP) is not considered. As a consequence of the relation of the expenditure of a poor country to the expenditure of a rich country, not considering the adjustment of the purchasing power parity distorts the actual amount of the expenditure; however, it maintains the ratio of the expenditure to the GDP.

The comparison of the defence expenditure of the members of the EU and NATO additionally is complicated because that some of them involve their potential in operations and in terms of the "out of area" liabilities. It is also complicated by the lack of clarity of counting the "money back", i.e., return transfers from some beneficiaries of the security umbrella in favour of, among others, the USA.

The relations between the NATO and EU are also determined by objective factors; out of "NATO citizens" (i.e., the citizens of the member states of the Alliance) nearly 50% are also "the citizens of the EU" – whereas the expenditure of the EU members being the NATO members accounts for 20% of the expenditure of all NATO members. At the same time, NATO members – silently assume the treatment of the whole area of the EU as the "area of responsibility" of the Alliance.

As a result, the comparative analysis of financing "defence" is an incomparable comparison. Simultaneously, the lack of verifiable and comparable data does not justify the resignation from conducting a comparative analysis and drawing conclusions on its basis. Most times, researchers are able – despite the weakness of data – to analyse the existing figures, to compare what is incomparable since the conclusions are essential – they respond to rationally justified social demand.

For above-mentioned reasons, the quantitative data are compared as percentage relations (and not in absolute terms), and then qualitatively analysed; such an approach – formally incorrect – allows to draw conclusions based on common sense. To fulfil the stated objective of the study, the following methods have been applied: economic (statistical analysis and qualitative analysis) and legal (dogmatic-legal and legal-comparative) methods.

1. NATO's defence budget

The scale of the only direct transfers to the NATO's budget is substantial. Under "host nation support" states hosting US military installations shoulder certain costs for training, labour and logistics. The study of the RAND Corp. [Lostumbo et al., 2013] assessed that the NATO allies' combined support for US military activities on their soil was more than USD 2.48 billion in 2002, or essentially USD 2.5 billion. For example, Germany participating in the costs of the stationing of the US troops on its territory paid a total of EUR 982.4 million between 2010 and 2019 [Militarytimes.com, 2020].

However, not only NATO's allies financially contribute to the NATO's defence budget. Only Japan, in 2007, transferred USD 2 billion in a form of an annual host-nation support called a "sympathy budget" or a "compassion budget" [Web.archive.org, 2006]. As of the 2011 budget, Japan compensates 75% of US basing costs – USD 4.4 billion [Zeynalov, 2018; Ito, 2011]. The current five-year arrangement was ended after March 2021 but will continue by March 2022 with Japan to pay USD 1.9 billion through that period for the 55,000 US troops based there [Aljazeera, 2021]. Similarly, it occurs with of South Korea; according to the Art. V of the combining the USA with South Korea Status of Forces Agreement (SOFA). The USA will bear all costs for the US troops' maintenance, except for those to be borne by South Korea, which included furnishing and compensating for "all facilities and areas and rights of way". South Korea's contribution to the maintenance cost of the US troops as described in SOFA, the two countries have signed Special Measures Agreements (SMA), has increased 10 times since 1991, usually to cover multiple years. Under the agreement reached in February 2019, for a year South Korea has agreed to increase its contribution to just under 1.04 trillion won (USD 927 million), an increase of about USD 70.3 million from the previous deal. According to South Korea's Defence White Paper, out of about 932 billion won South Korea contributed in 2015, personnel costs were about 37%, construction costs were about 45%, and the rest was for military assistance expenses [Reuters.com, 2019]. Assessments indicate that the South Korea's contribution for US protection increases from USD 830 million to USD 924 million annually, whereas the Japan's contribution for US troops – between USD 8 and USD 20 billion per year. In 2017, Japan paid USD 4.4 billion to the USA [Buchholz, 2019].

It is estimated that in 2020 NATO member states spent nearly USD 1.1 trillion on defence, which was an increase of nearly 6% in comparison with the previous year, and twofold growth compared to 2000 (Table 1; Figure 1). In 2020, the EU Member States' defence expenditure is estimated to amount to USD 205.5 billion, which accounted for 18.8% of the total NATO's expenditure. Compared with the previous year, the EU's defence expenditure rose by almost 4%, whereas over the last 20 years it grew by 77% [NATO, 2020] (Figure 1).

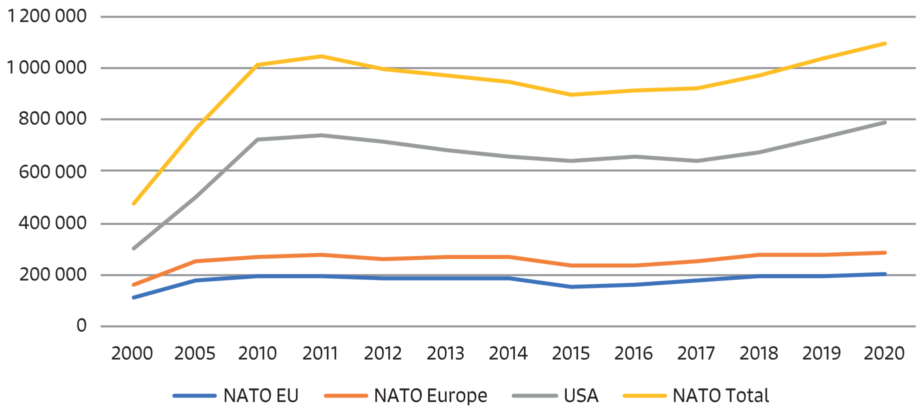
Table 1. Defence expenditure of NATO member states (million USD)

Country	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Albania	N/A	N/A	N/A	N/A	N/A	N/A	N/A	183	186	197	183	180	178	132	131	144	176	197	210
Belgium	4644	4449	3191	4229	4308	5164	6296	5623	5245	5500	5169	5264	5199	4204	4259	4442	4843	4761	5173
Bulgaria*	N/A	N/A	N/A	667	716	990	1162	905	832	758	722	811	747	633	671	723	961	2158	1195
Croatia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1014	920	996	865	850	1064	883	837	924	966	1002	986
Czechia	N/A	N/A	1148	2211	2408	2527	3090	3129	266	2437	2185	2148	1975	1921	1866	2259	2750	2910	3038
Denmark	2650	3118	2393	3468	3897	4175	4788	4337	4504	4518	4423	4216	4057	3364	3593	3780	4559	4557	4718
Estonia	N/A	N/A	N/A	204	236	371	430	353	332	389	437	480	513	463	498	541	615	637	669
France	42589	47768	33815	52909	55682	61796	66454	54442	51971	53441	50245	52317	52009	43492	44221	46150	50484	49634	50247
Germany	42319	41160	28150	38054	38092	42552	48082	47469	46255	48140	46470	45932	46164	39829	41618	45486	49750	52543	56074
Greece	3863	5056	5522	6752	7313	8208	10102	10156	7902	6858	5633	5310	5232	4519	4638	4754	5386	4843	4785
Hungary	N/A	N/A	804	1596	1410	1776	1868	1476	1351	1472	1322	1280	1210	1132	1289	1708	1615	2051	1829
Italy	23376	19375	22411	33527	33409	28648	33150	30486	28656	30223	26468	26658	24481	19574	22388	23911	25629	23556	24853
Latvia	N/A	N/A	N/A	204	314	444	539	315	251	286	248	281	294	282	403	485	709	692	722
Lithuania	N/A	N/A	N/A	305	353	453	531	401	326	344	324	355	428	471	636	818	1056	1093	1118
Luxembourg	97	142	128	244	247	286	214	202	248	232	214	234	253	250	236	326	356	381	422
Montenegro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65	69	57	62	65	76	77	97
Netherlands	7421	8012	5972	9567	10218	11480	12434	12131	11220	11339	10365	10226	10346	8672	9114	9646	11167	12268	12067
North Macedonia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	127	124	105	104	101	120	146	151
Norway	3395	3508	2922	4885	5012	5875	6371	6196	6499	7232	7143	7407	7722	6142	6431	6850	7544	7514	6671
Poland	N/A	N/A	3087	5536	6130	7833	8521	7475	8493	9106	8710	9007	10104	10596	9405	9938	11857	11923	12043
Portugal	1875	2670	2204	3143	3154	3309	3714	3740	3540	3652	3040	3262	3007	2645	2616	2739	3247	3298	3472
Romania	N/A	N/A	N/A	1976	2251	2608	3000	2225	2086	2380	2100	2452	2691	2581	2645	3643	4359	4608	5498
Slovakia	N/A	N/A	N/A	823	911	1139	1411	1350	1138	1065	1020	968	998	987	1004	1056	1297	1802	1753
Slovenia	N/A	N/A	N/A	514	609	693	829	799	772	666	543	507	487	401	450	477	546	573	584
Spain	9053	8651	7001	13054	14434	16724	18685	16943	14743	13984	13912	12607	12631	11095	9978	11893	13194	12629	14069
Turkey	5315	6606	9994	10301	11560	11814	14410	12647	14134	13616	13895	14427	13583	11957	12649	12972	14145	13986	13303
UK**	39590	33836	35608	55894	59076	68896	68108	58240	60329	62852	58016	62263	65658	59492	56154	55674	60307	59365	59634
NATO Europe	**186187**	**184351**	**164350**	**250063**	**261740**	**287761**	**314189**	**282237**	**272199**	**281683**	**263652**	**269634**	**271224**	**235879**	**237896**	**251505**	**277714**	**279204**	**285381**
Canada	11547	9077	8292	13204	15044	17926	19775	19095	18690	22040	19994	18221	18172	18689	17708	23700	22399	22319	22150
USA**	306170	278856	301697	503353	555950	586106	729544	757466	720423	740744	712947	680856	653942	641253	656059	642933	672255	730149	784952
NATO Total	**503904**	**472284**	**474339**	**766620**	**832734**	**891793**	**1063508**	**1058798**	**1011312**	**1044467**	**996593**	**968711**	**943338**	**895821**	**911663**	**918138**	**972368**	**1031672**	**1092483**

* Data do not include pensions. ** Data include military pensions, for the United Kingdom from 2005 and for United States from 2006. N/A – not applicable.

Source: NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

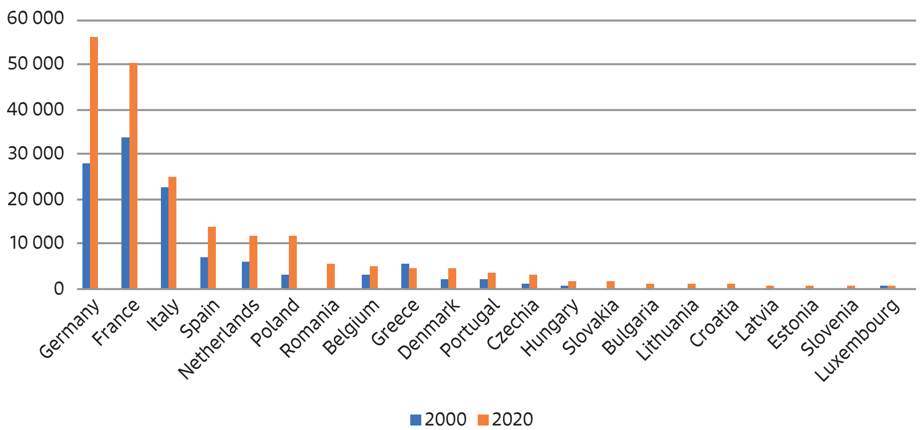
Figure 1. NATO's defence expenditure in 2000–2020 (million USD)



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

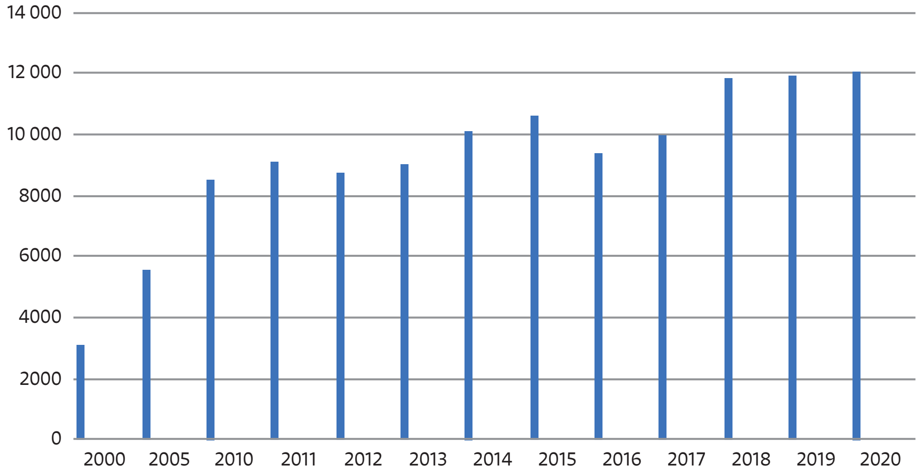
Among the EU Member States belonging to the NATO, Poland is in the sixth place in terms of defence expenditure, after Germany, France, Italy, Spain and the Netherlands (Figure 2). In 2020, it is estimated that Poland spent on defence by nearly USD 44 billion less than the EU leader in defence expenditure – Germany. To compare Poland's GDP in current prices amounted to USD 580.89 billion (2020), whereas German's – USD 3780.55 billion (2020) (Statista, 2021). Since 2000 Poland's defence expenditure has been steadily growing from USD 3.1 billion to USD 12 billion, which means a nearly four-fold rise [NATO, 2020] (Figure 3).

Figure 2. Defence expenditure of NATO EU (million USD)



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Figure 3. Poland's defence expenditure in 2000–2020 (million USD)



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

During the NATO Summit in Newport, Wales in 2014, NATO member states pledged to aim at spending 2% of their GDP on defence within the decade [Techau, 2015]. Those days only three NATO member states met this target – the USA, the UK and Greece. The current agreed target for European NATO members is 2% of GDP on defence by 2024. President Trump had urged the other countries in the alliance to increase that to 4% of GDP (BBC News, 2021). In 2020 only 9 states (in addition to the USA) belonging to the NATO fulfilled the 2-percent target of defence expenditure in relation to the GDP. Besides the USA (3.9%), these member states were Greece (2.6%), Estonia (2.4%), Romania (2.4%), the UK (2.4%), Latvia (2.3%), Lithuania (2.3%), France (2.1%), Norway (2.0%) and Poland, which dedicated 2.3% of the GDP to realise this target (NATO, 2020) (Table 2). In the ranking of the EU Member States' defence expenditure as a share of the GDP, Poland is in the fifth place (after Greece, Estonia, Romania and Latvia) (Figure 4).

Poland has been fulfilling the NATO's criteria regarding the defence expenditure since 2015 (only in 2017 the share of defence expenditure was below 2% of the GDP). In 2015 and 2020 Poland's defence expenditure exceeded the 2% threshold and it amounted to 2.2% and 2.3% of the GDP, respectively (Figure 5).

Creating – in member states of the NATO and EU – the "defence" budget is transparent and partially comparable. Transparent is the process of creating the budget and of the budget by itself; partially it is connected to the exclusive competence of a state to count some expenditure to "defence". However, the Alliance aims at ensuring the comparability of the expenditure.

Table 2. Defence expenditure as a share of real GDP (%)

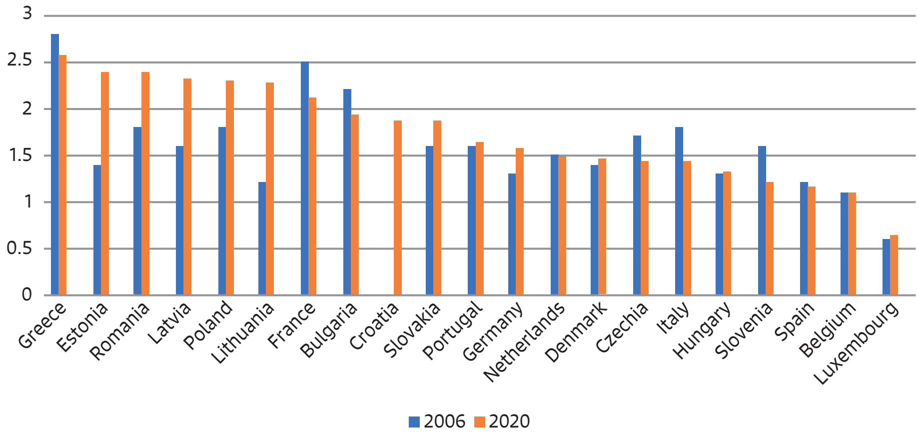
Country	Average of 1990–1994	Average of 1995–1999	Average of 2000–2004	Average of 2005–2009	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Albania	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5	1.6	1.5	1.5	1.4	1.4	1.2	1.1	1.1	1.2	1.3	1.5
Belgium	1.9	1.5	1.3	1.2	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9	1.1
Bulgaria	N/A	N/A	N/A	2.2	2.2	2.4	2.2	1.7	1.6	1.3	1.3	1.5	1.3	1.3	1.3	1.2	1.5	3.2	1.9
Croatia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.6	1.5	1.6	1.5	1.5	1.9	1.8	1.6	1.7	1.6	1.7	1.9
Czechia	N/A	N/A	2.0	1.6	1.7	1.5	1.4	1.5	1.3	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.4
Denmark	1.9	1.7	1.5	1.4	1.4	1.3	1.4	1.3	1.4	1.3	1.3	1.2	1.2	1.1	1.2	1.2	1.3	1.3	1.5
Estonia	N/A	N/A	N/A	1.6	1.4	1.7	1.8	1.8	1.7	1.7	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.0	2.4
France	3.3	2.9	2.5	2.3	2.5	2.4	2.3	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	2.1
Germany	2.1	1.6	1.4	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.6
Greece	3.9	4.1	3.2	2.8	2.8	2.7	2.9	3.1	2.6	2.4	2.3	2.2	2.2	2.3	2.4	2.3	2.5	2.3	2.6
Hungary	N/A	N/A	1.6	1.3	1.3	1.3	1.2	1.1	1.0	1.1	1.0	1.0	0.9	0.9	1.0	1.2	1.0	1.3	1.3
Italy	2.0	1.9	2.0	1.6	1.8	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.4
Latvia*	N/A	N/A	N/A	1.4	1.6	1.5	1.6	1.2	1.1	1.0	0.9	0.9	0.9	1.0	1.5	1.6	2.1	2.0	2.3
Lithuania*	N/A	N/A	N/A	1.1	1.2	1.2	1.1	1.1	0.9	0.8	0.8	0.8	0.9	1.1	1.5	1.7	2.0	2.0	2.3
Luxembourg	0.7	0.7	0.7	0.5	0.6	0.6	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6
Montenegro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.9
Netherlands	2.3	1.8	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.4	1.5
North Macedonia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.2	1.1	1.1	1.0	0.9	1.0	1.2	1.3
Norway	2.8	2.2	1.9	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.9	2.0
Poland*	N/A	N/A	1.8	1.8	1.8	1.8	1.6	1.7	1.8	1.7	1.7	1.7	1.9	2.2	2.0	1.9	2.0	2.0	2.3
Portugal	2.3	2.1	1.7	1.5	1.6	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.4	1.4	1.6
Romania*	N/A	N/A	N/A	1.6	1.8	1.5	1.5	1.3	1.2	1.3	1.2	1.3	1.4	1.5	1.4	1.7	1.8	1.8	2.4
Slovakia	N/A	N/A	N/A	1.6	1.6	1.5	1.5	1.5	1.3	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.2	1.7	1.9
Slovenia	N/A	N/A	N/A	1.5	1.6	1.5	1.5	1.6	1.6	1.3	1.2	1.1	1.0	0.9	1.0	1.0	1.0	1.1	1.2
Spain	1.6	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9	1.0	0.9	0.9	0.9	0.8	0.9	0.9	0.9	1.2
Turkey	2.8	3.2	3.2	2.0	2.2	1.8	2.0	2.1	1.9	1.8	1.8	1.8	1.5	1.4	1.5	1.5	1.8	1.9	1.9
UK	3.7	2.7	2.3	2.5	2.4	2.5	2.6	2.5	2.5	2.4	2.2	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.4
NATO Europe	**2.4**	**2.1**	**1.9**	**1.6**	**1.7**	**1.6**	**1.6**	**1.5**	**1.5**	**1.4**	**1.4**	**1.3**	**1.3**	**1.3**	**1.3**	**1.4**	**1.5**	**1.6**	**1.8**
Canada	1.8	1.3	1.2	1.3	1.2	1.3	1.3	1.4	1.2	1.2	1.1	1.0	1.0	1.2	1.2	1.4	1.3	1.3	1.5
USA	4.6	3.3	3.4	4.5	4.1	4.2	5.1	5.3	4.8	4.8	4.4	4.1	3.7	3.5	3.5	3.3	3.3	3.5	3.9
NATO Total	**2.5**	**2.2**	**1.9**	**1.7**	**1.7**	**1.7**	**1.7**	**1.7**	**1.6**	**1.5**	**1.5**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.5**	**1.6**	**1.8**

Note: Figures for 2019 and 2020 are estimates. The NATO Europe and Canada and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards include North Macedonia, which became an Ally on 27 March 2020.

* These Allies have national laws and political agreements which call for 2% of GDP to be spent on defence annually, consequently estimates are expected to change accordingly. For the past years, Allies' defence spending was based on the then available GDP data and Allies may, therefore, have met the 2% guideline when using those figures (in 2018, Lithuania met 2% using November 2018 OECD figures).

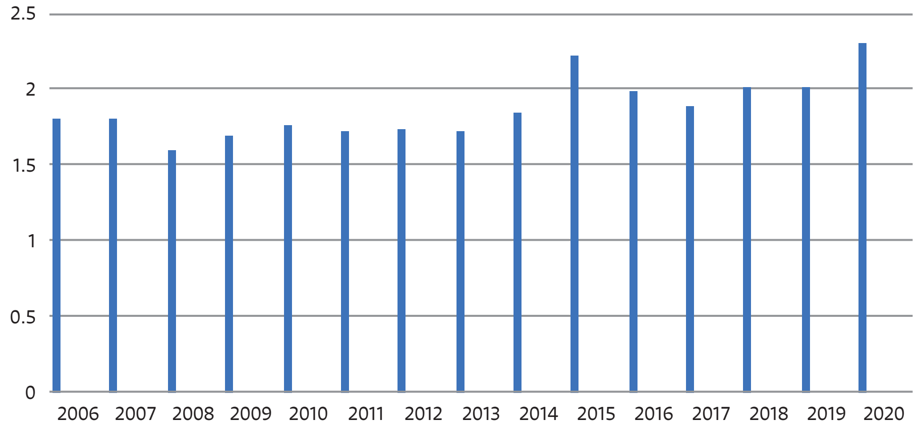
Source: NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Figure 4. Defence expenditure of NATO EU as a share of real GDP (%)



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Figure 5. Poland's defence expenditure as a share of real GDP in 2006–2020 (%)



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Since 1963, the latter has formed a consistent basis of comparison of the defence effort of the Alliance members based on a common definition of defence expenditure, which includes all current and capital expenditures on the armed forces, including peacekeeping forces; defence ministries and other government agencies engaged in defence projects; paramilitary forces; and military space activities. Such expenditures include military and civil personnel, including retirement pensions of military personnel and social services for personnel; operation and maintenance; procurement; military research and development; and military aid [World Bank, 2021].

However, this transparency and partial comparability ends on the doorstep of the execution of the "defence" budget. The catalogue of differences comprises the open collection of factors:

- in the member states of the EU and NATO, the control and supervision over the execution of the budget in the sphere of incomes are exclusively of the domestic character. The execution of the budget in the area of income, hence, determines the amount of funds spent on "defence" (in absolute terms);
- there is a lack of explicit criteria qualifying the expenditure;
- spending money on "defence" is – in accordance with law – less transparent than spending other public funds. As a consequence, both the accordance with law and rationality of spending funds on "defence" may differ in particular states;
- among the members of the EU and NATO are both democratic states and of the rule of law, and kleptocracies. Systemic differences among these states are positively feed-backed with the spending of public funds; the weakness of democracy and the rule of law create the conditions of kleptocracy, funds obtained from defrauding the public funds enables to maintain the power. The difficulties with determining the amount of defence expenditure and its comparability are illustrated for Poland in Box 1.

Box 1. Purchase of the aircraft in Poland

Although over 50 years ago, the Alliance created a common basis for the comparison of the defence efforts of particular member states, in the case of Poland, e.g., on the one hand the purchase of the F-16 aircraft was financed from outside of the budget of the Ministry of the National Defence, i.e., from outside of the total of the defence expenditure established in the budget law. The purchase was financed by the American government loan paid on the basis of two acts: on establishing a many-year programme "Equipment of the Armed Forces of the Republic of Poland with multi-purpose aircraft and ensuring conditions for its implementations" (of June 2001) as well as on the "Reconstruction, technical modernisation and financing of the Armed Forces of the Republic of Poland" (of May 2001). Similarly, 32 aircraft of the "fifth generation (F-35)" were purchased. At the same time, Poland while purchasing the F-16 did not accede either the European or the "American" development programme of the fifth-generation aircrafts, which has an impact on their purchase price. On the other hand, the purchase of the aircraft for the government – in 2017 – in frames of which three Boeing 737-800NG aircraft were purchased was financed from the "defence" budget.

Source: NATO [2001].

The support for the expenditure for "defence" is also significantly differentiated. In the case of Poland, the pacifist foundations are weak. The cross-party consensus with a wide social support takes place with regard to Poland's participation in the NATO. There is a lack of a corresponding compatibility of the political parties' attitudes with respect to Poland's participation in the EU "Common Security and Defence Policy" (Section 2 of the Treaty on European Union). The differences of attitudes towards the cooperation with the NATO and EU may result from not perceiving the interinstitutional ties and recognising the "collective self-defence (NATO)" as an alternative towards the "common defence (EU)". The effect is Poland's far-reaching restraint in cooperation in frames of the

European Defence Agency. Simultaneously, the assessment of Poland's actions against the other EU Member States in the sphere of the purchase of armament is ambiguous. On the one hand, the European military cooperation is constrained to the barrier in a form of the fragmentation of the "European" defence industry. It is illustrated by the case of tanks; American armed forces use one main battle tank, whereas the European states – nine. This fragmentation dramatically increases the unit cost of both the purchase and operation; it decreases the interoperability of the armed forces. Poland purchasing the American military equipment not only spends money in a more effective way, but it also purchases the equipment of higher effectiveness in operation (connected to interoperability). On the other hand, Poland's experience with financing the purchase of armament in the USA in a formula of "offset agreements" is not positive [Bieszczyński, 2007]. The legal rules of offset agreements are determined in Poland by so called "The Offset Act" [Pawłuszko, 2000; Szumański, 2000].

Financing the institutionalised defence in the frames of the EU and NATO is an option of financing an international organisation. Similarities and differences with regard to the general model (the existence of the model can be acknowledged) result from: the subjective structure, which is defence; and functional, which is complementarity of actions with the lack of the formal and legal regulation of dividing the competence of the specificity of the institutionalised defence. NATO's members contribute according to an agreed cost-share formula, based on GNI, which represents a small percentage of each country's defence budget. This cost-share formula is published every year. Projects can also be jointly funded, which means that the participating countries can identify the requirements, the priorities and the funding arrangements, but NATO provides political and financial oversight. The final result of the implementation of the institutionalised defence is "security", these homogenous goods are available for each participant of the system as a compensatory act of justice. The expected and received benefit from participating in the system of the collective defence is the same. In the case of many international organisations they expect – receive different benefits from the membership in the organisation. The functional basis of the distribution of "security" is its indivisibility. Automatism, *sui generis*, of ensuring the security having, as a base, its indivisibility creates, however, a temptation of a "free rider". Simultaneously, the basis of determining the contribution to the defence system is differentiated; different in the EU, and different in the NATO. In the case of the NATO, it is the contribution in financing the collective defence equal to the GDP share, hence differentiated in terms of an absolute value. At the same time, the difference of the contribution is allowed for a state that has no armed forces – Iceland, while recognizing the value of the state's participation in the system [Menkes, Prystrom, 1994].

NATO budgets, i.e., the civil and the military ones as well as the NATO Security Investment Programme are public and accessible. The execution of the NATO budget has been subject, since 1953, to control by the independent International Board of Auditors for NATO. Perceiving, from the financial perspective, the implementation of the institutionalised defence (collective self-defence) it is characterised by dominating autonomy of the state participating in the system. Not only states participating in the system make a different contribution to "defence", but there is also a different (in each state distinct) manner of counting and spending it. Finally, the effectiveness of using the tangible assets is also different.

2. Structure of defence expenditure

Security – the obligation to provide it belong – which is commonly recognised – to the sphere of exclusive competences – obligations of a state. However, here the consensus in democratic states ends; disputable is both the amount of expenditure on security, their division and the way of spending them. In most general terms, the difference refers to the relations between the expenditures on security with the use of "hard power" and "soft power"; security provided by military instruments and security derived from the transformation of the international environment. The scale of the divergence of opinions is subject to change and is positively feedbacked with the perception of threats. With assessing that the level of threats is low, the temptation to spend funds intended for military security increases – in the case of assessing that the level of threats is high, the approval for military expenditure increases.

As assessed by the members of the North Atlantic Alliance, the international security environment in the 2030 s is unpredictable [Stoltenberg, 2021]. It commands the planning of security under the conditions of "uncertainty". The sources of threats with which the Alliance – the member states are confronted originate both from the state entities (Russia, China) and non-state entities (terrorist groups, e.g., ISIS). It requires the reinforcement of the military potential of the Alliance; abandoning the policy of reducing the defence expenditure by member states provides conditions for that. The Alliance plans to spend the defence funds directly on forces and equipment as well as indirectly on the reinforcement of the structure (energy, communication and telecommunication infrastructure) as well as security and diverse supply lines.

Over the last 30 years the distribution of defence expenditure by equipment (including major equipment expenditure and R&D devoted to major equipment), personnel (including military and civilian expenditure and pensions), infrastructure (including NATO common infrastructure and national military construction) and other expenditure (including operations and maintenance expenditure, other R&D expenditure and expenditure not allocated above-mentioned categories is differentiated (Table 3, 4, 5 and 6).

In 2020, Luxembourg was the country that dedicated the most funds to defence equipment (37.5% of total defence expenditure), Greece incurred the biggest expenditure on personnel (75.6%), whereas again Luxembourg spent most on infrastructure. As far as other expenditure is concerned including, e.g., operations and maintenance expenditure, the UK dedicated the most funds (41.4% of the total defence expenditure) to this category. Poland's expenditure on equipment (as a percent of total defence expenditure) was rising (from 8.9% in 2006 to 25.8% in 2020), the expenditure on personnel was falling (from 53.8% in 2006 to 47% in 2020), whereas the expenditure on infrastructure was also growing (from 3.8% in 2006 to 5.1% in 2020).

Table 3. Distribution of defence expenditure by equipment expenditure as % of total defence expenditure

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Albania	N/A	N/A	N/A	11.3	15.7	13.4	14.4	16.3	16.7	8.9	8.0	7.0	9.4	14.6	15.1
Belgium	5.9	4.8	8.1	8.2	6.8	6.3	3.6	2.8	3.5	3.4	4.7	6.5	10.2	11.1	10.4
Bulgaria	14.1	24.0	21.4	14.2	15.4	6.3	3.7	4.5	1.0	3.5	9.2	8.1	9.7	59.7	19.3
Canada	11.8	14.8	13.0	12.8	13.8	9.7	8.3	11.2	13.0	10.5	10.6	10.7	11.9	14.8	17.4
Croatia	N/A	N/A	N/A	10.2	8.1	15.8	14.7	10.7	5.6	8.0	7.5	5.7	3.4	6.6	9.5
Czechia	14.6	10.1	12.9	22.4	12.4	13.3	14.8	9.5	6.5	11.8	6.7	11.6	11.2	14.4	16.7
Denmark	15.4	15.7	18.8	9.9	14.1	9.7	9.0	11.3	11.0	11.5	13.7	10.4	11.7	18.1	22.4
Estonia	14.5	23.7	10.1	17.9	11.9	10.1	13.7	14.5	22.2	12.8	17.9	19.2	16.5	15.5	17.3
France	22.8	21.4	21.0	27.0	30.2	28.2	30.6	28.6	24.6	25.0	24.4	24.2	23.7	24.5	26.5
Germany	15.0	14.6	17.1	17.6	17.6	16.4	16.5	12.7	12.9	11.9	12.2	11.8	12.4	14.7	16.8
Greece	14.9	10.5	16.4	27.8	18.0	5.9	7.5	12.1	8.2	10.4	13.5	11.3	11.0	12.5	12.1
Hungary	9.0	12.1	14.8	12.7	12.1	12.3	5.8	11.1	7.8	9.8	13.4	18.5	12.6	23.8	33.6
Italy	7.2	14.0	12.7	11.3	10.9	11.7	8.9	12.5	10.9	9.7	19.1	20.7	19.1	17.0	24.6
Latvia	12.3	9.6	14.9	5.4	15.6	10.8	10.5	12.1	7.6	13.6	19.1	15.0	31.9	21.7	26.0
Lithuania	17.0	18.7	16.3	16.2	10.0	9.4	11.2	9.2	14.1	21.6	30.1	31.6	37.0	37.6	26.2
Luxembourg	8.7	6.8	25.1	17.4	34.5	21.9	17.1	14.6	22.6	33.3	30.1	42.1	45.2	49.7	37.5
Montenegro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.3	7.5	5.4	4.5	5.0	11.1	14.1	19.0
Netherlands	16.8	19.1	18.4	17.6	15.7	14.4	13.4	12.6	10.7	11.2	14.1	14.8	16.4	21.5	23.2
North Macedonia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.3	5.9	11.1	8.4	6.5	11.1	13.8	11.5
Norway	19.4	21.4	22.6	19.2	18.1	17.0	17.8	18.9	20.4	21.8	23.4	24.6	25.6	29.3	28.8
Poland	18.2	18.6	13.9	15.9	18.1	16.1	15.2	13.9	18.8	33.2	21.6	22.0	27.5	24.2	25.8
Portugal	8.9	8.4	13.5	8.8	13.2	12.1	9.3	8.7	8.4	8.7	10.0	11.4	15.5	16.6	16.6
Romania	24.0	13.3	16.7	8.7	8.8	7.6	4.1	10.7	15.8	19.7	20.4	33.3	33.5	25.6	25.6
Slovakia	12.7	16.2	14.6	13.2	9.8	7.2	9.6	7.4	11.1	18.3	15.3	17.7	22.3	40.1	28.9
Slovenia	12.2	10.8	7.4	8.5	18.0	5.7	1.2	1.3	0.7	1.9	1.0	4.0	6.0	7.1	8.7
Spain	21.7	20.8	22.5	17.4	12.1	6.7	22.9	12.4	13.5	14.8	6.7	20.4	21.8	21.0	23.3

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Turkey	34.4	24.5	27.4	25.6	28.0	24.6	21.2	26.9	25.1	25.1	25.6	30.3	37.6	38.6	36.9
UK	21.4	22.6	22.5	21.9	24.5	22.0	19.5	21.9	22.8	21.8	21.2	22.3	22.3	22.9	23.0
USA	23.8	24.6	26.1	24.1	24.0	27.0	27.0	25.8	26.0	25.4	25.1	25.7	27.1	27.5	29.3

Source: NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Table 4. Distribution of defence expenditure by personnel expenditure as % of total defence expenditure

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Albania	N/A	N/A	N/A	66.2	75.7	77.1	70.0	75.3	68.1	78.2	68.1	68.2	70.7	62.9	59.7
Belgium	75.3	78.9	72.2	74.5	75.5	75.9	78.5	77.1	77.8	78.2	76.8	75.2	70.7	68.4	62.6
Bulgaria	51.8	44.8	44.9	59.2	64.3	67.4	64.7	65.4	72.8	73.7	65.6	68.3	63.0	29.4	56.0
Canada	46.6	46.0	44.9	45.3	45.3	47.1	49.1	52.4	50.9	53.8	53.1	57.4	51.0	47.8	47.4
Croatia	N/A	N/A	N/A	72.4	71.6	67.2	68.1	68.1	76.6	72.3	75.4	71.7	77.0	73.7	71.7
Czechia	47.4	49.2	51.5	46.1	50.7	56.3	61.7	62.0	61.4	55.3	62.0	56.1	54.6	53.2	50.3
Denmark	48.5	50.6	51.5	56.3	50.8	52.2	49.1	51.7	51.3	52.0	49.5	47.0	49.9	48.2	45.4
Estonia	26.0	27.0	31.5	34.5	34.5	32.3	29.8	39.8	38.6	39.6	38.7	34.9	33.8	34.2	34.3
France	57.4	57.1	57.4	49.3	47.6	49.4	49.1	49.2	48.6	47.8	47.9	48.0	46.9	45.8	44.2
Germany	57.1	54.9	53.9	53.2	52.7	52.3	50.6	49.9	50.7	49.9	48.4	49.0	48.0	45.3	41.9
Greece	73.8	79.5	74.1	56.5	65.1	76.0	73.2	74.6	77.2	72.1	73.1	76.6	78.8	76.9	75.6
Hungary	51.2	46.4	48.1	50.4	56.4	50.6	47.7	49.0	49.8	48.2	49.7	37.1	42.3	35.1	36.5
Italy	81.9	72.8	70.8	73.9	75.1	74.8	77.1	75.0	76.4	77.6	70.8	67.6	68.2	70.2	62.2
Latvia	39.2	38.9	46.3	59.3	55.9	51.3	56.2	53.0	53.0	50.1	43.9	38.6	34.3	33.5	37.0
Lithuania	54.8	54.7	56.3	60.9	65.6	66.9	66.8	66.5	57.5	48.5	45.5	40.8	37.5	40.0	44.5
Luxembourg	76.5	77.3	54.0	57.0	45.6	52.3	54.2	51.1	49.3	42.8	45.6	34.4	33.4	30.8	27.3
Montenegro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87.7	78.5	78.0	75.3	80.4	72.9	72.9	59.2
Netherlands	47.8	47.2	50.9	50.1	52.3	54.7	57.5	58.5	56.5	55.5	51.8	52.2	51.2	48.1	48.5
North Macedonia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	71.6	72.5	71.0	71.3	75.3	71.5	61.9	62.7
Norway	45.4	43.2	41.9	42.4	42.7	43.4	42.4	41.0	40.6	40.0	38.6	37.1	36.4	34.2	34.2
Poland	53.8	54.4	63.2	61.1	56.8	57.8	57.3	57.7	51.5	42.0	47.2	50.0	46.1	47.8	47.0
Portugal	76.2	78.7	71.7	75.3	70.2	78.3	78.4	79.9	81.3	81.9	81.4	80.2	74.8	71.7	65.4
Romania	59.8	72.3	69.1	79.8	79.1	79.1	84.0	79.0	71.2	63.3	65.0	54.7	54.5	57.9	53.1
Slovakia	49.1	51.5	51.7	55.8	62.4	69.5	66.5	70.1	69.1	56.2	58.7	58.2	54.7	40.8	49.1
Slovenia	60.1	59.8	62.2	67.1	61.7	74.6	78.9	80.5	82.3	82.2	76.0	75.0	72.4	69.1	66.5
Spain	53.5	53.0	53.7	58.7	63.4	64.8	57.2	68.3	67.3	65.2	72.6	61.6	59.6	61.9	52.5
Turkey	48.4	53.3	50.6	49.6	49.8	53.0	56.0	54.6	56.9	56.8	57.6	51.0	45.2	46.8	47.3
UK	40.4	38.8	36.5	37.5	35.7	37.6	38.9	37.9	36.6	36.8	35.3	34.5	33.8	34.1	34.0
USA	36.9	35.2	33.3	46.9	46.7	33.0	32.1	34.4	35.5	36.6	45.0	41.5	39.7	38.9	37.4

Source: NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Table 5. Distribution of defence expenditure by infrastructure expenditure* as % of total defence expenditure

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Albania	N/A	N/A	N/A	3.7	1.8	0.8	0.6	1.2	0.9	1.4	1.4	0.9	1.1	1.6	2.9
Belgium	2.0	1.8	1.8	2.2	1.8	1.7	1.6	2.2	1.8	0.9	1.0	1.1	1.4	1.2	1.6
Bulgaria	0.6	2.1	4.3	6.1	2.4	1.5	0.8	0.5	0.6	1.3	0.6	0.8	2.6	1.1	6.9
Canada	2.6	2.6	3.3	3.1	4.1	5.5	5.5	4.1	3.8	3.6	3.0	3.0	3.6	2.8	3.7
Croatia	N/A	N/A	N/A	1.5	1.4	0.7	0.6	1.2	1.2	2.0	1.3	3.6	1.0	1.4	1.7
Czechia	8.3	9.8	5.6	3.9	5.8	2.5	1.6	2.7	2.3	3.3	3.9	4.0	5.3	7.0	7.8
Denmark	4.1	3.9	2.7	1.2	1.1	1.5	1.2	1.2	1.0	1.1	2.2	2.0	1.5	1.7	2.4
Estonia	16.4	14.8	15.4	10.0	13.7	13.6	8.9	11.5	8.2	8.5	12.2	11.3	8.5	6.1	7.9
France	3.7	3.9	3.7	2.2	3.1	2.7	3.4	2.3	2.3	2.8	2.7	2.9	3.5	3.1	2.9
Germany	3.6	4.1	4.1	4.8	5.2	4.1	3.5	3.6	3.8	3.6	3.4	4.1	4.2	4.0	3.7
Greece	1.0	0.4	0.4	0.8	0.8	1.3	0.8	0.6	1.1	0.7	0.6	0.8	0.6	0.7	1.3
Hungary	8.1	5.2	2.6	3.9	2.1	1.3	2.1	2.3	1.1	1.2	1.1	1.3	1.7	3.5	3.1
Italy	0.6	1.0	1.6	1.5	1.4	1.3	1.0	1.6	1.4	1.3	0.7	0.9	1.3	0.7	1.7
Latvia	9.7	16.3	13.6	6.4	5.8	9.3	4.2	6.3	8.9	6.6	12.8	15.0	6.5	10.3	7.9
Lithuania	3.5	3.2	3.4	2.4	2.0	1.4	1.5	2.0	2.2	2.2	3.6	3.9	2.2	2.4	4.9
Luxembourg	2.0	2.4	2.1	3.1	4.2	7.2	8.2	11.8	10.3	7.8	6.6	4.6	5.1	3.2	11.0
Montenegro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1	1.0	2.5	2.4	0.9	2.2	1.4	8.3
Netherlands	3.5	2.9	3.1	3.4	3.5	3.8	3.7	2.7	4.8	3.2	3.9	3.0	3.5	3.3	3.3
North Macedonia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7	1.2	1.7	1.3	1.0	1.0	3.9	2.7
Norway	4.3	5.6	6.1	5.5	5.2	4.2	4.9	5.6	5.7	5.3	6.6	6.9	6.7	6.4	7.0
Poland	3.8	5.0	4.7	5.0	4.0	4.8	4.8	5.6	5.5	4.7	4.6	4.2	3.5	5.3	5.1
Portugal	1.8	0.7	0.9	0.8	0.4	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.1	0.1	0.2
Romania	2.1	1.1	1.1	1.4	1.8	1.5	1.2	1.2	1.1	1.3	2.8	2.1	1.5	3.5	4.9
Slovakia	5.2	2.5	2.0	4.5	4.2	1.0	0.4	0.3	0.6	2.0	3.8	3.0	2.0	1.2	2.2
Slovenia	0.8	4.6	4.9	3.2	2.7	2.6	2.0	1.3	0.7	0.6	1.1	0.5	1.4	0.6	1.8
Spain	2.8	2.9	2.3	2.3	1.3	1.9	0.9	0.7	0.7	1.0	1.0	0.7	0.6	1.0	1.2
Turkey	2.4	3.8	3.3	2.9	2.8	2.9	3.7	2.7	2.8	2.6	2.4	3.0	2.5	2.0	3.1
UK	2.6	2.3	2.1	2.2	1.6	1.6	1.9	2.0	2.0	1.6	1.9	2.3	3.0	2.1	1.7
USA	1.1	1.3	1.8	1.0	1.0	3.1	2.4	2.1	1.7	1.5	1.2	1.2	1.2	1.3	1.3

Source: NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

In 2006–2020, NATO allies on average allocated most funds to personnel – this type of expenditure increased from 46.9% to 50.1% of the total budget expenditure. There has also been recorded an increase of equipment expenditure – from 13.7% to 21.8%. Over the researched period, the expenditure on infrastructure and other expenditure have rather levelled off (Figure 6).

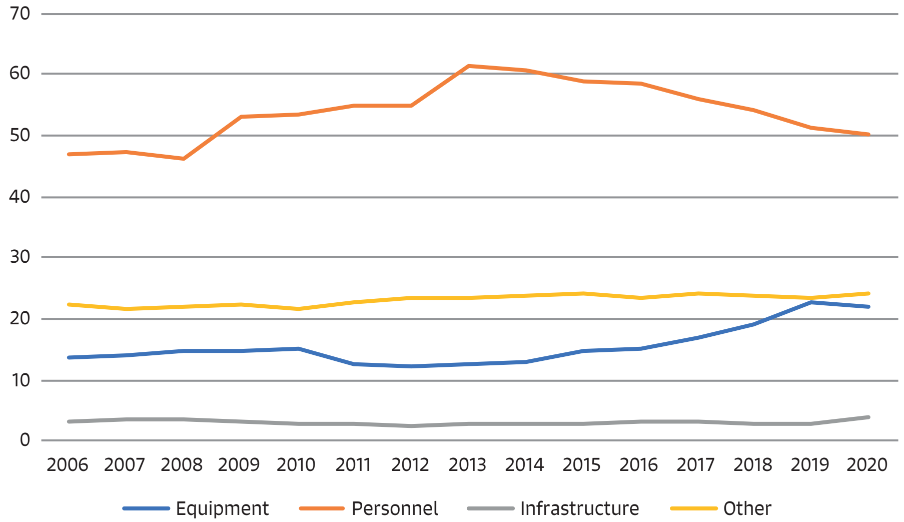
Table 6. Distribution of defence expenditure by other expenditure as % of total defence expenditure

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Albania	N/A	N/A	N/A	18.8	6.8	8.8	15.0	7.3	14.4	11.5	22.6	23.9	18.8	20.9	22.3
Belgium	16.8	14.5	18.0	15.1	15.9	16.2	16.3	17.9	16.8	17.4	17.5	17.2	17.7	19.4	25.4
Bulgaria	33.5	29.1	29.3	20.5	17.9	24.8	30.9	29.6	25.5	21.6	24.6	22.7	24.7	9.7	17.9
Canada	39.0	36.7	38.8	38.9	36.8	37.8	37.1	32.3	32.3	32.1	33.3	29.0	33.5	34.7	31.5
Croatia	N/A	N/A	N/A	15.8	18.9	16.3	16.6	20.0	16.7	17.7	15.8	19.0	18.7	18.3	17.2
Czechia	29.7	30.9	30.1	27.6	31.1	27.9	22.0	25.8	29.7	29.7	27.4	28.4	29.0	25.4	25.2
Denmark	32.0	29.7	27.0	32.6	34.0	36.7	40.7	35.8	36.8	35.4	34.7	40.7	37.0	32.0	29.8
Estonia	43.2	34.4	43.1	37.6	39.9	44.0	47.7	34.1	31.0	39.2	31.3	34.6	41.1	44.2	40.5
France	16.2	17.5	17.9	21.5	19.0	19.8	16.9	19.9	24.4	24.4	24.9	25.0	25.9	26.6	26.4
Germany	24.3	26.5	24.9	24.5	24.6	27.2	29.4	33.8	32.6	34.6	36.1	35.2	35.5	36.1	37.6
Greece	10.2	9.6	9.1	14.9	16.2	16.8	18.6	12.8	13.6	16.9	12.8	11.4	9.6	10.0	11.1
Hungary	31.7	36.3	34.6	33.0	29.5	35.8	44.4	37.6	41.4	40.8	35.8	43.0	43.4	37.5	26.8
Italy	10.3	12.2	14.9	13.3	12.6	12.2	13.1	10.9	11.3	11.4	9.4	10.8	11.4	12.1	11.6
Latvia	38.8	35.1	25.1	28.9	22.7	28.6	29.2	28.7	30.6	29.7	24.3	31.4	27.4	34.5	29.1
Lithuania	24.6	23.4	24.0	20.6	22.4	22.4	20.6	22.2	26.2	27.8	20.9	23.7	23.3	20.0	24.4
Luxembourg	12.8	13.4	18.8	22.5	15.8	18.7	20.5	22.5	17.8	16.1	17.7	18.9	16.4	16.4	24.2
Montenegro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.9	13.1	14.1	17.8	13.7	13.8	11.6	13.5
Netherlands	31.9	30.8	27.7	29.0	28.6	27.1	25.3	26.2	28.1	30.1	30.2	30.0	29.0	27.1	25.1
North Macedonia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.4	20.3	16.3	19.1	17.3	16.4	20.4	23.2
Norway	30.9	29.8	29.4	32.9	33.9	35.3	35.0	34.5	33.2	32.9	31.5	31.4	31.3	30.1	30.1
Poland	24.2	22.0	18.2	18.1	21.1	21.3	22.7	22.8	24.2	20.1	26.6	23.7	22.9	22.7	22.2
Portugal	13.1	12.2	13.9	15.1	16.2	9.6	12.2	11.5	10.2	9.2	8.6	8.4	9.7	11.6	17.8
Romania	14.2	13.3	13.1	10.1	10.3	11.9	10.7	9.1	12.0	15.8	11.8	9.9	10.5	13.0	16.4
Slovakia	33.0	29.8	31.7	26.5	23.6	22.4	23.6	22.2	19.2	23.5	22.2	21.1	21.0	18.0	19.9
Slovenia	26.9	24.8	25.5	21.3	17.6	17.1	17.9	16.9	16.4	15.3	21.8	20.5	20.2	23.2	22.9
Spain	22.0	23.3	21.5	21.7	23.3	26.6	19.1	18.7	18.5	19.0	19.8	17.3	17.9	16.1	23.1
Turkey	14.8	18.4	18.7	21.9	19.4	19.5	19.1	15.8	15.3	15.5	14.4	15.7	14.7	12.6	12.8
UK	35.6	36.3	38.9	38.4	38.3	38.8	39.6	38.2	38.6	39.8	41.6	40.9	41.0	41.0	41.4
USA	38.1	38.9	38.8	28.0	28.3	36.9	38.5	37.7	36.9	36.5	28.7	31.5	32.0	32.3	32.0

Source: NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

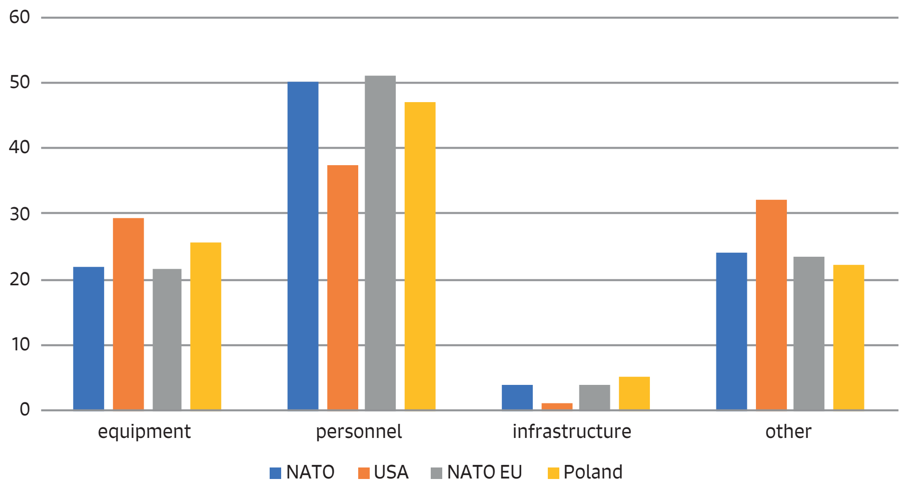
In 2020, the USA, the NATO EU Member States on average and Poland allocated the most funds of the total defence expenditure to personnel – 50.1%, 51% and 47%, respectively. Poland spent more money on equipment (25.8% of the total defence expenditure) than NATO EU members (21.5%), but less than the USA (29.3%). Poland like all the NATO EU members and the USA dedicated the least funds to infrastructure – 5.1%, 4% and 1.3%, respectively. Other expenditure accounted for 22.2% of Poland's total expenditure and 23.6% in the case of the EU Member States. The USA allocated 32% of their total defence expenditure to other expenditure (Figure 7).

Figure 6. Distribution of defence expenditure by equipment, personnel, infrastructure and other expenditure as % of total defence expenditure in 2006–2020



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

Figure 7. Distribution of defence expenditure by main category (equipment, personnel, infrastructure, other) as % of total defence expenditure in 2020



Source: own elaboration based on NATO, *Information on defence expenditures*, https://www.nato.int/cps/en/natohq/topics_49198.htm (accessed: 11.02.2021).

3. NATO EU

A structured and formalised cooperation between the EU and NATO was initiated in 2002 (NATO EU Declaration on European Security and Defence Policy, ESDP) [NATO, 2002]. Deepening the European integration – establishing the ESDP has built the EU's capability to cooperate in a domain connected to the realization of the "collective defence" by the NATO. In recent years, it has been deepened and developed in response to the challenges for security. In the Joint Declaration 2016 specifying the cooperation [Nato.usmission.gov, 2016] indicated an urgent need to react as following: "Boost our ability to counter hybrid threats, including by bolstering resilience, working together on analysis, prevention, and early detection, through timely information sharing and, to the extent possible, intelligence sharing between staffs; and cooperating on strategic communication and response. The development of coordinated procedures through our respective playbooks will substantially contribute to implementing our efforts; broaden and adapt our operational cooperation including at sea, and on migration, through increased sharing of maritime situational awareness as well as better coordination and mutual reinforcement of our activities in the Mediterranean and elsewhere; expand our coordination on cyber security and defence including in the context of our missions and operations, exercises and on education and training; develop coherent, complementary and interoperable defence capabilities of EU Member States and NATO Allies, as well as multilateral projects; facilitate a stronger defence industry and greater defence research and industrial cooperation within Europe and across the Atlantic; step up our coordination on exercises, including on hybrid, by developing as the first step parallel and coordinated exercises for 2017 and 2018; build the defence and security capacity and foster the resilience of our partners in the East and South in a complementary way through specific projects in a variety of areas for individual recipient countries, including by strengthening maritime capacity".

The political and legal frameworks of the interinstitutional cooperation determine the Joint Declaration signed by the President of European Council, the President of European Commission and the Secretary General of the NATO. According to the Declaration, exists (one) "Euro-Atlantic area" embraced by efforts to ensure "peace and stability". It means not only the extension of the responsibility to the security over the entire area, but also recognition that the realisation of this responsibility requires the reinforcement of the "trans-Atlantic bond".

The confirmed – in the Declaration 2018 – aim is that "capabilities developed through the defence initiatives of the EU and NATO should remain coherent, complementary and interoperable".

The explicitly designated areas of the interorganisational cooperation are:

- maritime cooperation in the Mediterranean contributes to fighting migrant smuggling and trafficking, and thus relieves human suffering;
- and ability to respond to hybrid threats. The UE and NATO, together, hold readiness for crisis response and exchange information (including on cyber-attacks) as well as cooperate towards the challenges of disinformation. Organisations support the defence and security capacity of their neighbours to the East and to the South [Consilium.europa.eu, 2018].

Conclusions

Taking advantage of the VIP security – according to the principle "no free lunch" – requires undertaking expenditure adequate to the value of the goods received. Many participants of the public life seem to lose sight of the awareness of that. However, the threats with which the citizens/states of the EU and NATO are confronted – among others challenges from strategic rivals (Russia and China) as well as terrorist groups – are directly felt. This decides about the return of the member states and (both) Organisations to the involvement in defence at the level comparable to the involvement, which allowed to resist the challenge from the Soviet Union during the "Cold War".

Poland, as far as the "collective defence" efforts are concerned, is a reliable and loyal ally. Since 2000 Poland's defence expenditure has been steadily growing from USD 3.1 billion to USD 12 billion. Among NATO EU members, currently Poland occupies the sixth place in terms of defence expenditure, placing itself after Germany, France, Italy, Spain and the Netherlands.

Poland also belongs to ten NATO members, which fulfil the 2% target of defence expenditure in relation to the GDP. In the ranking of the NATO EU members' defence expenditure as a share of the GDP, Poland is in the fifth place after Greece, Estonia, Romania and Latvia.

As far as the structure of the defence budget is concerned, Poland allocates the most funds to personnel – the personnel expenditure accounts for 47% of the total defence expenditure, whereas the equipment expenditure, in turn, accounts for nearly 26%. Poland allocates the least money to infrastructure – about 5% of the total defence budget. The structure of Poland's defence expenditure resembles the trend of NATO members and NATO EU countries – most funds are spent on personnel, whereas the least amount of money – on infrastructure.

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POLAND IN THE EUROPEAN DEFENCE AGENCY

Abstract

European Defence Agency was established by the Council of the European Union due inter alia to harmonise the activities of the European Union within the Common Security and Defence Policy (CSDP) and the Common Foreign and Security Policy (CFSP). Poland is both the European Union's member and one of the Agency's founding country. The aim of the paper is to investigate institutional and law possibilities of facilitating and improving the adjustment of Polish Armed Force to the EU and NATO standards. The thesis that Poland's participation in Agency's activities improves and facilitates and adaptation of Polish Armed Force to the EU and NATO standards, accelerates technical modernisation, affects the changes of organisational structures and promotes the professionalisation of the activities, would be verified. The general thesis is that a participation of Poland in the activity of Agency accelerates a transformation of armed force and increases infrastructural investments. The basic test method is a formal-dogmatic method. This method has mainly been used to present legal grounds of Agency's activity, its organisational structure, and the extent of undertaken actions. The paper has focused on analysing legal regulations, which are a fundament of Agency's functioning, and form a basis of all programmes and projects involving Poland. The general proposal resulting from the paper is that the activity of Agency affects a consolidation of European defence market and Poland as a member of the European Union has gained a direct impact on shape and the process of implementing policies in this regard. Not only state institutions (governmental bodies) or legal entities related to state structures are engaged in the project implementation of Agency, but private operators, research and development centers and higher education institutions may participate in the activity of Agency as well. Fulfilment of requirements and expectations regarding operational and material standardisation at Union level and also in terms of the benefits that Poland may gain from the Agency's activities at the national level, is only possible through close cooperation within the Agency and participation in the programmes implemented by it.

Keywords: European Defence Agency; defence; research programmes and projects
JEL Classification: K33

Introduction

The European Defence Agency (the Agency) was established by the Council of the European Union to support the activities of the Member States of the European Union in the field of the Common Security and Defence Policy (CSDP) and the Common Foreign and Security Policy (CFSP). The establishment of the Agency was, among other things, to harmonize the activities of the European Union in the aforementioned field [Hoffmann, 2011, p. 81]. Poland is one of the founding EU member states of the Agency. By cooperating within the Agency, Poland has gained the opportunity to engage research and development units and economic entities in joint projects, acquire modern technologies, modernize the Polish Armed Forces and obtain orders [Creation, 2005, pp. 404–406]. The purpose of this study is to examine with legal methods the institutional-legal possibilities of improving and facilitating the adjustment of the Polish Armed Forces to the EU-NATO standards. The legal basis for the creation of the Agency and its organizational structure were presented in a synthetic way. The thesis of the paper is that Poland's participation in the Agency's activities facilitates the adaptation of the Polish Armed Forces to the EU and NATO standards and accelerates technical modernization, influences changes in organizational structures and promotes professionalization of activities. The generalized thesis is that Poland's participation in the Agency's activities accelerates the transformation of the armed forces and increases infrastructure investments [Cf. Paluch, 2019, p. 45]. The conclusion for Poland – as a member of the EU – resulting from the study is that increasing the efficiency, competitiveness and innovation of the Polish defence industry sector requires further close cooperation within the Agency and extensive activity in projects and programmes that are conducted by the Agency and its member states. The conclusion for the EU and NATO arising from the study is that the Agency's activity affects the consolidation of the European defense market, creates conditions for increasing efficiency of the use of resources. The basic method used in this chapter is the formal-dogmatic method. The method is used mainly to present the legal basis of the Agency's activity, its organisational structure and the scope of its activities. The paper has focused on the analysis of legal regulations constituting the basis of the Agency's operation, as well as on programmes and projects with Poland's participation. Consequently, the study consists of sections containing a synthesis of: the legal basis for the functioning of the Agency, the structure of the Agency, its tasks and financing. These sections are mainly based on the last decision mentioned in the part concerning the legal basis of the Agency's functioning. The next two parts of the study present the participation of Polish state institutions, economic and scientific entities in the implementation of the Agency's implementation's programmes and projects. The whole is concluded with final remarks.

1. Legal framework for establishment of the Agency

The Agency for Defence Capability Development, Research, Acquisition and Armaments was established on the basis of Joint Action 2004/551/CFSP [OJ EU L 245, 17.07.2004, pp. 17–28] adopted by the Council on 12 July 2004, with a view to become fully operational in 2005 [Hoffmann, 2011, p. 81]. Its establishment resulted from the arrangements made at the Council meeting in Thessaloniki on 19 and 20 June 2003, which aimed to create an agency to deal with the development of defence capabilities, research, procurement and armament in the member states [Council Meeting, 2003, p. 92]. Council Decision 2007/643/CFSP of 18 September 2007 laid down the rules for financing the Agency [OJ EU L 269, 12.10.2007, pp. 1–38]. The Lisbon Treaty of 13 December 2007, provides the Treaty basis for the Agency [Article 42(3)] and defines its tasks [Article 45], as further specified in Protocol No 10 on permanent structured cooperation under Article 42 TEU (annexed to the Treaty) [Protocol No 10, 2012, pp. 276–277]. On 7 April 2008. The Council adopted Joint Action 2008/299/CFSP amending Joint Action 2004/551/CFSP [OJ EU L 102, 12.04.2008, pp. 34–35]. In 2011 The Council, by Decision 2011/411/CFSP of 12 July 2011 [OJ EU L 183, 13.07.2011, pp. 16–26] repealed Joint Action 2004/551/CFSP, which was prompted by the need to align the Agency's rules with the provisions of the Lisbon Treaty, which entered into force on 1 December 2009 [Nitszke, 2017, p. 142]. On 12 October 2015 Council Decision (CFSP) 2015/1835 gave the Agency its statute, defined the rules of operation and designated the seat of the European Defence Agency [OJ EU L 266, 13.10.2015, pp. 55–74], while Council Decision (EU) 2016/1353 of 4 August 2016 adopted the funding rules [OJ L 219, 12.8.2016, pp. 98–119]. All European Union Member States except Denmark participate in the work of the Agency.[1] The Agency has signed, with the approval of the Council, "administrative arrangements" with Norway (2006), Switzerland (2012), Serbia (2013) and Ukraine (2015), which allow these countries to participate in projects and programmes implemented by the Agency [EDA, 2021a].

Council Decision 2015/1835 of 12 October 2015 defining the statute, seat and rules of operation of the European Defence Agency required neither ratification nor transposition into the Polish legal order. This is due to the fact that under European primary law (treaties) "decisions" are among the legal acts of the European Union [TFEU, 2012], which in the legal order of a member state can have a direct effect [Capik, Łazowski, 2016]. In the case of Poland, such effect – fulfillment of the obligation allows the regulation of Article 91(3) of the Constitution of the Republic of Poland, according to which "if it results from the

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1 Denmark does not participate in the elaboration and implementation of Union decisions and actions which have defence-policy implications [Protocol No. 22, 2012, Article 5].

agreement ratified by the Republic of Poland constituting an international organization, the law made by it is applied directly, having priority in case of conflict with the laws" [Journal of Laws 1997, No. 78, item 483, as amended]. This regulation was introduced into the Constitution with a view to adjusting the constitutional order to membership in the European Union [Menkes, Wasilkowski, 2017, p. 478 et seq.].

2. Structure of the Agency

The organizational structure of the Agency is as follows: the Agency is headed by the Head of the Agency.[2] This function shall be exercised ex officio by the High Representative of the Union for Foreign Affairs and Security Policy (High Representative); a Steering Board (decision-making body); consisting of a representative of each participating Member State (at the rank of Minister of Defence), empowered to commit the Government, and a representative of the Commission,[3] the Chief Executive[4] and the Deputy Chief Executive; and staff. The Agency's tasks are carried out by three operations directorates: Planning and Support for Cooperation (ISE), Capabilities, Armaments and Technologies (CAP) and European Level Synergies and Innovation (RTI). There is also a Corporate Services Directorate (CSD) within the Agency, which provides business support to the Agency's activities. There are specialized units in each of the directorates, with an additional Legal Office and a Corporate Projects Unit located within the CSD structure. The Chief Executive acts through his Political Office (CE PO), which is responsible, among other things, for planning and coordinating the Agency's activities. It is also the Agency's main interface with Member States and EU institutions and bodies. The Agency also has a Media and Communications Unit (MCU) and an Internal Auditor [EDA, 2021b].

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2 The Head of the Agency shall be responsible for the overall organization and functioning of the Agency and shall ensure that the Chief Executive Officer under his/her authority implements the guidelines and directions issued by the Council and implements the decisions of the Steering Board [Council Decision 2015/1835, Article 7(2)].

3 The Steering Board inter alia: approves the reports to be presented to the Council; adopts the Agency's general budget; approves the Agency's three-year planning framework, which sets out the Agency's priorities within the general budget; approves the establishment of *ad hoc* projects or programmes within the Agency; appoints the Chief Executive Officer and a Deputy; decides on the possibility for one or more Member States to entrust the Agency with the administrative and financial management of certain activities within its remit [Council Decision 2015/1835, Article 9].

4 The Chief Executive is responsible, inter alia, for ensuring the implementation of the Agency's three-year planning framework, preparing the work of the Steering Board, preparing the draft annual general budget, ensuring close cooperation with the Council's preparatory bodies (including the PSC and the Military Committee), preparing the statement of revenue and expenditure and implementing the Agency's general budget as well as the budgets of *ad hoc* projects or programmes entrusted to the Agency, the day-to-day management of the Agency, all staff matters.

In connection with Poland's accession to the European Defence Agency on 12 July 2004, by a Decision of the Minister of National Defence dated 10 November 2004, functional persons were designated to participate in the meetings of the Agency Governing Board.[5] These arrangements have been amended several times, and by the Decision of the Minister of Defence of 30 November 2016 on the National Director for Armament Affairs (OJ MON of 2016, item 190), the function of the National Director for Armament Affairs was created, the performance of which was entrusted to the Director of the Department of Armament Policy of the Ministry of Defence. The Director is responsible for the coordination and supervision of international cooperation of relevant organizational units and units in the military-technical-industrial area, and his tasks include: representing the Ministry of National Defence at the Agency Steering Board. The deputies of the National Director were also appointed and assigned specific tasks within the framework of cooperation with the Steering Board of the Agency. The following deputies were appointed respectively: for Armament Affairs in the area of Scientific Research and Defence Technology,[6] for Armament Affairs in Operational Capabilities,[7] as well as for Armament Affairs in the area of Mechanisms for Financing Defence Capabilities.[8]

The Agency operates under the authority and political supervision of the Council, to which it reports and from which it receives guidance or direction in connection with its work [Article 4(2) of Council Decision 2015/1835]. Any Member State may join or withdraw from the work of the Agency at any time. Only appropriate notification to the Council and the High Representative of the Union for Foreign Affairs and Security Policy is required [Article 1(4) of Council Decision 2015/1835].

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5 According to the decision, these were: 1) at the level of National Armament Directors – the Secretary of State – 1st Deputy Minister of Defense; 2) at the level of Research and Development Directors – the Director of the Armament Policy Department; 3) at the level of Defense Policy Directors – the Director of the Defense Policy Department; 4) at the level of Defense Planning Directors – the Chief of the General Strategic Planning Board – P5 of the General Staff of the Polish Army [Decision No. 341, 2004].

6 The function was entrusted to the Director of the Department of Science and Military Education of the Ministry of Defence. His tasks include participation and presentation of the Ministry of Defence in the meetings of the Steering Board of EDA in the formula of Directors for Scientific Research and Technology, Council for Science and Technology.

7 The function was entrusted to the Chief of the Planning and Programming Board for the Development of the Armed Forces-P5 of the General Staff of the Polish Army. His tasks include representing the Ministry of National Defence in the meetings of the Steering Board of EDA in the formula of Directors for Defence Capabilities.

8 The function was entrusted to the Chief of the Planning and Programming Board for the Development of the Armed Forces-P5 of the General Staff of the Polish Army. His tasks include representing the Ministry of National Defence in the meetings of the Steering Board of EDA in the formula of Directors for Defence Capabilities.

3. Tasks of the Agency

The Agency's tasks are to define the Member States' military capability objectives and to evaluate their implementation of their commitments in that respect. The Agency participates in the harmonisation of operational requirements and procurement methods, in particular by: promoting and coordinating harmonization of military requirements, identifying and disseminating best practices, and providing assessments of financial priorities for capability development and procurement. The Agency shall have the capacity to propose multilateral projects to improve military capabilities, and to identify and propose joint projects and activities in the operational sphere. The Agency supports, coordinates, and plans joint research activities on defense technologies that meet future operational requirements. The Agency shall contribute to the definition of measures strengthening the industrial and technological base of the defence sector and the effectiveness of military expenditure, inter alia, by contributing to an internationally competitive European defence equipment market, developing relevant policies and strategies, and pursuing the development and EU-wide harmonisation of relevant procedures within the framework of the Agency's tasks. It also assesses the Member States' contributions in the field of defence capabilities. The Agency also has important competencies in evaluating countries wishing to join the Permanent Structured Cooperation [Mazurek, 2012, p. 21 et seq.]. The Agency provides support to European Union operations in the field of the Common Foreign and Security Policy while taking into account the European Union crisis management procedures. In this regard, it offers training and maintenance exercises [Nitszke, 2017, p. 144]. In carrying out the tasks entrusted to it, the Agency does not violate the competences of the Member States in defence matters and acts with full respect for the competences of the European Union institutions. The Agency's activities concern the standardization of defense equipment, the development of industrial standards in the field of defense, as well as the identification of opportunities to reduce the costs of obtaining military certificates [Rogala-Lewicki, 2017, p. 144]. Technology research and development programmes have become a priority in the Agency's activities [Kurinia, 2018, p. 67]. These projects are developed within the framework of technology panels, which are working groups devoted to the development of defense technologies with the participation of experts both from the defense ministries of the Agency's member states and from European industry and research centers. The coordination of cooperation with the Agency in the field of research and technology is the responsibility of the Department of Science and Military Education of the Ministry of Defense, whose tasks in this regard, according to the order of the Minister of Defense of 6 November 2020 [OJ. Monz 2020, item 178] is to be taken over by the newly established

Department of Innovation [GOV, 2021a]. In turn, the Department of International Security Policy of the Ministry of Defense [MON, 2021] is responsible for the political aspects of cooperation with the Agency.

4. Financing of the Agency's activities

The Agency's budget shall consist of a general budget and budgets related to activities carried out through *ad hoc* projects and programmes.

The general budget shall be financed by contributions from the Member States, based on their gross national income. The Agency may also raise funds from other sources – the general budget of the European Union or, if the Steering Board agrees, from Member States, third countries or other entities [Nitszke, 2017, p. 143]. In 2006, the value of the general budget was EUR 21.3 million [Annual Accounts, 2006], in 2020 EUR 32 million and for 2021 it is planned at EUR 33 million [EDA, 2021c]. Poland's contribution in 2006 was EUR 474,090 [Annual Accounts, 2006] and has increased steadily since then, in 2017 it was EUR 846,195.46 [Annual Accounts, 2017]. In 2018 EUR 940,961.51 [Annual Accounts, 2018] and in 2019 it was EUR 1,017.750 [Annual Accounts, 2019]. Poland is in 7th place in terms of its contribution in 2019.[9]

Within the budgets related to *ad hoc* activities, the Agency implements projects or programmes in two categories: category A – *opt out* [Article 19 of Decision 2015/1835] and category B – *opt in* [Article 20 of Decision 2015/1835]. In category A, one or more participating Member States or the Chief Executive Officer may submit to the Steering Board an *ad hoc* project or programme which involves the general participation of all Member States [Article 19(1)]. All participating Member States shall in principle contribute, and the Steering Board must approve the establishment of the *ad hoc* project or programme [Article 19(3)]. In Category B, on the other hand, one or more participating Member States may inform the Steering Board of their intention to establish an *ad hoc* project or programme. The Steering Board shall be informed of the *ad hoc* budget (if any) to be associated with the proposed project or programme and details, if relevant, on human resources for such project or programme, as well as potential third party contributions. In order to maximise opportunities for cooperation, all participating Member States are informed of the *ad hoc* project or programme, including the modalities of possible widening of participation, in due time for each participating Member State to express its wish to join [Article 20(2)]. For Category A projects or programmes, the contributing Member

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9 In 2018. Poland was ranked 8th and 9th in 2017 and 7th in 2016. Countries with the highest contributions: Germany, France, the UK, Italy, Spain and the Netherlands.

States meeting within the Steering Board shall approve any necessary modalities agreed with the relevant third parties relating to their contribution, and for Category B projects or programmes the contributing Member States shall decide any necessary modalities agreed with the relevant third parties relating to their contribution. Contributions may be made to *ad hoc* budgets established for *ad hoc* projects or programmes from the general budget of the European Union [Article 22]. Furthermore, third parties may contribute, as contributing members, to a specific *ad hoc* project or programme and to the related budget, but this requires the approval of the Steering Board [Article 23]. In addition, there are initiatives funded by the Agency itself from money designated in its operating budget [more extensively see: Mazurek, 2012, p. 40].

The scope of the Agency's activities and the effectiveness of its undertakings depend to a large extent on the size of its budget. Thus, it can be assumed that the effectiveness of the implementation of the Agency's goals depends on the level of individual countries' contributions. The link between the level of contributions to the general budget of the Agency and the gross national income limits the possibility of imposing certain contribution levels without prior changes to the principles of financing the Agency. This limitation does not seem to apply to *ad hoc* projects and programmes.

5. Participation of Polish entities and institutions in the implementation of the Agency's programmes and projects

The first joint research programme of the Agency concerned the identification of technological needs in the area: Military Security. The programme started in 2007 and was implemented under the budget of Category A *ad hoc* projects [Bachman et al., 2007, p. 18]. Poland was one of the largest contributors to the program (with a pledge of 10 million EUR). This enabled Poland to access new technologies useful to the military, such as: improving the defence of troops against mines, means of mass destruction, enabling remote detection of biological and chemical contamination [Bachman et al., 2007, p. 18]. Since then, the Agency has implemented dozens of technology R&D programs worth hundreds of millions of euros [Cf. S. Kurinia, 2018, p. 67]. Poland has participated in many programmes. Funding for the work carried out by Polish contractors is covered by the Ministry of Defence's budget for scientific research [GOV, 2021a]. Currently, Poland participates in several research projects of the Agency covering such areas as: countering improvised explosive devices (Improvised Explosive Devices) – codenamed IEDs, conducted since 2009, in which all EDA member states participate [EDA, 2021d], communications and radiolocation (CapTech RF Sensors Technologies) – codenamed RADAR, concerning radars and electronic warfare systems using RF, magnetic and electronic technologies.

Government representatives, through dialogue with research and industry experts, meet to develop joint RF sensor projects from a system-level perspective [EDA, 2021e]. Poland is also participating in the Unmanned Maritime Systems (UMS) research and technology projects for future maritime applications. The programme has been run since 2009 and since then, 15 projects with a total value of over EUR 50 million have been launched. Apart from Poland, the programme currently involves nine Member States of the Agency and Norway[10] [EDA, 2021f].

In addition, Poland participates in four key multinational projects recommended by the Agency as a priority for the defense capabilities of the European Union. The first programme is Air-to-Air Refueling (codenamed AAR), conducted since 2012, Poland together with 25 countries cooperates with Norway, Serbia and Switzerland. As part of the programme, training exercises are conducted, actions are taken to acquire additional refueling tanks by, for example, recipient countries, which will increase the number of tankers without the need to acquire additional aircraft, actions are taken to streamline and standardize various certification processes (the scope of work covers all types of tankers). Activities thus focus on certification, training, maintenance, and joint capability development [EDA, 2021g]. The second programme deals with Unmanned Aerial Systems (Remotely Piloted Aircraft Systems) – codenamed RPAS. Remotely Piloted Aircraft Systems are relevant to military operations, particularly for surveillance and information gathering. These systems can also offer a wide range of civilian applications such as infrastructure surveillance, firefighting, natural disaster or environmental monitoring, and border control and management [EDA, 2021h]. Another programme is Governmental Satellite Communications – codenamed GovSatCom. Poland, with fifteen other Agency members, has been participating in it since 2015. The space sector, and satellite communications in particular, are increasingly important to the European Union for defence, security, humanitarian aid and crisis response, and diplomatic communications. They are a key enabler for civil and military missions/operations, both at national and EU level. Satellite communications are one reliable means of establishing communications links for a full suite of new and evolving information services, including in areas with little or no infrastructure [EDA, 2021j]. The fourth key project concerns Cyberspace Security (Cyber Defence), codenamed CD, in which all EDA member states participate. Cyberspace is understood as the 5th domain of warfare, as important to military operations as land, sea, air, and space. Cyberspace can be a domain for the implementation of defense and security missions. In cooperation, the emphasis is on supporting member states in creating skilled military personnel in cyber defense and ensure the availability of proactive and reactive cyber defense technologies [EDA, 2021i].

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10 Belgium, Finland, France, Germany, Italy, the Netherlands, Poland, Portugal, Spain and Sweden.

Polish entities also participate in 8 out of 18 European research projects under the Preparatory Action on Defence Research – codenamed PADR [GOV, 2021a]. This is a European Union pilot programme for the research component of the European Defence Fund, which will be launched in 2021. In terms of participation in PADR projects, Poland is in 6th place among 29 European countries. From the Polish side, the PADR programme was supervised by the Department of Science and Military Education. This project is one of the activities leading to the creation of a fully-fledged European Defence Fund, including a research window, within the next Multiannual Financial Framework of the European Union (2021–2027) [EDA, 2021k].

Poland also participates in more than a dozen projects related to the development of priority defense capabilities of the European Union under the Pooling and Sharing initiative [EDA's Pooling & Sharing, 2013, pp. 115–128] that are at the conceptual stage. Poland's participation in these projects makes it possible to improve the interoperability of the Polish Armed Forces by jointly agreeing on requirements and operational needs. At the project implementation stage, there is also an opportunity to involve Polish scientific and industrial entities. Moreover, participation in the development of standards and requirements allows for their implementation in national projects [MON, 2021]. Moreover, in 2019. Poland joined the European Air Transport Fleet Programme – codenamed EATF, conducted since 2011 [EDA, 2021l], as well as to the programme to create a joint fleet of transport aircraft capable of acting as air tankers (Multirole Transport-Tanker Aircraft) [MON, 2021] – codename MRTT. In turn, in late 2020. Poland joined two more research projects. Together with France, the Netherlands, and Germany, the research project "Software Defined Tactical Networks and Theater of Operations" (Software Defined Tactical and Theatre Network) – codenamed SOFTANET.[11] This project aims to investigate the advantages of Software Defined Networking for military tactical and operational level networks along with technology demonstration. Poland's participation in the project will allow it to participate in the development of a new European standard for data exchange between network nodes. Implementation of the project will enable the use of its results in developing the capabilities of the Polish Armed Forces in the area of command [GOV, 2021a].

In turn, together with Italy and Norway, the research project "Next Generation of Propellers" (NEXTPROP)[12] will be implemented. The aim of the project is to develop and implement software and design tools for modelling low-noise new generation of ship propellers. The use of project results will allow for increased ship survivability on the

11 On the Polish side the project will be executed by ITTI sp. z o.o., Military Communication Institute, Military University of Technology and RADMOR SA.

12 On the Polish side the project will be executed by the Naval Academy and Maritime Advanced Research Centre (CTO SA).

battlefield [GOV, 2021a]. Due to limited access to source materials, it is difficult to say whether the activities of Polish entities could go beyond the current activity. However, this does not change the fact that so far Poland has participated in the implementation of projects and programmes of the Agency.

6. Cooperation of economic operators and scientific institutions

In cooperation with the Agency, including research work, are involved representatives of the Polish defence industry such as Polska Grupa Zbrojeniowa S.A. [PGZ, 2021], Research and Development Centre of Maritime Technology (CTM) S.A. [Wgospodarce, 2021], Ośrodek Badawczo-Rozwojowy Urządzeń Mechanicznych "OBRUM" sp. z o.o. [Bachman et al., 2007, p. 20], Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej S.A. [CTM, 2021], Polish Space Agency [POLSA, 2021], but also universities and research institutes and their employees as national coordinators and as experts. The Military Academy of Technology in Warsaw [WAT, 2021] is particularly active in cooperation in the implementation of projects. The Academy participated in Category B Projects (co-financed by project partners),[13] in the Joint Investment Programme on CBRN Protection,[14] or in the Joint Investment Programme on Force Protection.[15] From 2017 to 2020, it participated in the MUSICODE project, under the Improvised Explosive Devices (IEDs) programme, for an unmanned land-based UGV stand-off multi-sensor platform for IED component detection [PIAP, 2021]. It is also to be involved in the SOFTANET research project, which Poland joined at the end of 2020 [GOV, 2021a] Other universities, including the Naval Academy,[16] Cracow University of Technology,[17] Rzeszów University of Technology[18] and the Military Institute of Engineering Technology[19] are also pursuing cooperation.

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13 THz Imaging Phenomenology Platforms for Stand-off IED Detection (TIPPSI) over the period 2013–2018. Application of Extended Fluorescence Methods for Improved Detection of Biological Warfare Agents (FABIOLA) over the period 2004–2008.

14 As part of the programme, the Academy participated in projects between 2013 and 2016 as follows: Rapid Air-particle Monitoring against BiOlogical threats (RAMBO), Active MUltispectral Reflection Fingerprinting Of persistent ChemicAL agents (AMURFOCAL).

15 As part of the programme, the Academy participated in projects between 2007 and 2010 as follows: Air Defence High Energy Laser Weapon (ADHELW), Advanced Helmet and Devices for Individual Protection (AHEAD), SNIper Positioning and detection (SNIPOD).

16 Between 2015 and 2018, she participated in a project (SABUVIS) aimed at the design and construction of heterogeneous autonomous biomimetic underwater vehicles equipped with sensors and communication devices necessary for operational underwater reconnaissance scenarios [PIAP, 2021a]. It is also to participate in the NEXTPROP project.

17 Over the period 2015 and 2018, the University participated in a project (SABUVIS) [PIAP, 2021a].

18 Participating in the ERA project (Enhanced RPAS Automation) to support the regulation of unmanned aircraft in non-segregated European airspace [Radiocentre, 2021].

19 Including the Military University of Technology participating in the MUSICODE project [PIAP, 2021].

Conclusions

The Agency's activity influences the consolidation of the European defence market, which, taking into account the national interest, Poland supported [Konarzewska, 2008, p. 236]; this support, from a political-declared one, has evolved since 2004, when Poland, as a member of the European Union, gained the possibility of directly influencing the shape and implementation of policy in this area (it moved from participation in decision shaping to participation in decision making) [Stolarczyk, 2015, p. 124]. The internationalization of the defense market related to international cooperation and joint development of armaments stems from the development of the Common Foreign, Security and Defense Policy and the recognition that "national protectionism is seen at the European Union level as the reason for the inefficiency of the European defense market and the inability to create an effective policy towards the defense industry" [Zamelek, 2013, p. 103]. The consolidation of the defense industry in the European Union is based on the European Defense Agency, but with the close involvement of national companies with a complex ownership structure [Rogala-Lewicki, 2017, p. 155]. As indicated in the study, in the activities of the Agency, through involvement in the implementation of its projects, participate not only Polish state institutions (government) or legal entities with ownership links to state structures, but also Polish private business entities, Polish research and development institutes and universities. The Agency enables cooperation through recruitment of experts,[20] but also through internships, trainings and student placements available also on the Polish labour market [Eurodesk, 2021]. Meeting the requirements and expectations in terms of operational and material standardization at the EU level, but also in terms of the benefits that Poland can get from the Agency's activities [Dereń, 2012, p. 26] at the national level, is only possible through close cooperation within the Agency and participation in its programmes.

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Annex

Poland's position in the intra-EU trade (and in particular, the balance of trade situation) presented in Chapter 1 leads to the conclusion that a country recorded the positive balance of this trade only in 2009. According to many other analyses, trade surplus in Poland's intra-EU trade was achieved already in 2005, one year after the EU accession (Table 1). This different assessment results from a different approach to import registration. In Chapter 1 trade statistics (imports) base on the Eurostat (statistical office of the EU) methodology, it is on country of consignment approach. Country of consignment is a country in which goods are subject to dispatch (and not necessarily are produced there) to the country of destination (an example is the situation when laptops made in China and delivered to Poland via the port of Hamburg are considered as Polish intra-EU imports from Germany). While Polish statistical office (Statistics Poland) registers imports by country of origin, it is a country in which goods have been produced, manufactured or processed (this situation occurs when a car (also with Chinese seats) manufactured in Germany is sold to Poland). Therefore, a value of intra-EU import based on a country of consignment used to be much higher (as it represents all dispatched goods delivered from a country of consignment) than a value of intra-EU import based on a country of origin. As a result, different conclusions are formulated.[1]

Despite significant differences in the position of Poland in intra-EU trade calculated by country of origin and by the country of consignment, the difference in top EU trading partners in imports in 2019 is minor (Table 2). Due to a large part of Polish imports carried out through the largest ports in the Netherlands and Germany, both these countries, as well as Belgium, had a slightly larger share in Polish imports classified by country of consignment than by country of origin. As a result, the Netherlands overtook France. However, in principle, the list of top 10 exporters to Poland has remained unchanged.

1 Special thanks for support in identifying and describing this problem to Łukasz Ambroziak, PhD, Institute of Agricultural and Food Economics.

Table 1. Poland's foreign trade turnover in total and with EU MS in 2004–2019 based on a country of consignment and on a country of origin (billion EUR)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Export	47.2	55.1	68.1	80.3	90.5	78.2	95.3	106.6	109.1	116.3	128.4	142.5	147.6	165.4	180.3	190.5
Statistics based on a country of consignment concept																
Import based on country of consignment	54.5	60.7	73.0	88.2	102.4	78.1	95.2	106.8	104.4	108.4	117.4	125.5	131.2	147.9	159.9	163.6
Balance based on data on imports from country of consignment	−7.3	−5.5	−4.9	−7.9	−11.9	0.2	0.1	−0.2	4.7	7.9	11.0	17.0	16.4	17.4	20.4	26.9
Statistics based on a country of origin concept																
Import based on country of origin	48.7	53.2	63.7	77.2	88.2	66.5	79.8	91.0	88.6	91.8	99.5	106.4	110.8	124.4	134.1	137.6
Balance based on data on imports from country of origin	−1.4	1.9	4.4	3.1	2.3	11.7	15.4	15.6	20.5	24.5	28.9	36.2	36.7	41.0	46.2	52.9

Notes: red background – negative trade balance; green background – positive trade balance.

Source: own calculations based on data from Statistics Poland.

Table 2. Poland's 2019 top 10 EU trading partners in imports based on country of origin and country of consignment (%)

Import based on country of origin		Import based on country of consignment	
Germany	37.7	Germany	39.1
Italy	8.7	The Netherlands	8.2
The Netherlands	6.5	Italy	7.3
France	6.3	France	5.8
Czechia	5.7	Czechia	5.8
Belgium	4.0	Belgium	5.4
Spain	4.0	United Kingdom	3.7
United Kingdom	3.9	Spain	3.4
Slovakia	3.1	Slovakia	3.4
Sweden	3.0	Sweden	3.1

Source: own calculations based on data from Statistics Poland.

In 2020 notable Polish professors and experts researching topics related to Poland's accession to the European Union participated in a common project, which resulted in a book entitled *Polska w Unii Europejskiej. Od stowarzyszenia do piętnastolecia członkostwa* [*Poland in the European Union. From Association to Fifteen Years of Membership*], with an intention to honour Prof. E. Kawecka-Wyrzykowska. This book has undoubtedly left a mark and can be perceived as a direction for further research.

Taking the aforementioned into account, the Department for European Integration and Legal Studies undertook a project, whose aim was to investigate the performance of Poland in the European Union in consecutive periods. Although it was clear to us that discussing every aspect of Poland's membership in the EU is not possible, we made every effort to cover the topics which we considered the most important as of 2021. We hope that readers of *Poland in the European Union. Report 2021* will find the content useful and interesting. Our intention is to continue with the series and to publish the report on a yearly basis.

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