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Fiscal Compliance and Fiscal Response to the COVID-19 Crisis in Visegrad and Baltic States

Denys Dmytrenko

University of Pardubice, Faculty of Economics and Administration, Science and Research Centre, Czech Republic

Romana Provazníková

University of Pardubice, Faculty of Economics and Administration, Institute of Economics Sciences, Czech Republic

Abstract

The coronavirus crisis, which began in 2020, had a major impact on the fiscal policies of the EU member states. Governments increased their spending to support economies affected by quarantine measures. Expenditure increase and revenue reduction made EU countries non-compliant with the requirements set by the Stability and Growth Pact, adopted to balance fiscal policies. However, countries were affected differently and used different fiscal measures. The paper discusses differences in fiscal response to the COVID-19 crisis among Baltic and Visegrad countries. The paper aims to analyse how the fiscal response in 2020 correlates with their fiscal indicator's compliance in the pre-crisis period (2004-2019). The results suggest that the states could be divided into two subgroups according to their fiscal stance before 2020 and their reactions to the shock. The first group, consisting of Hungary, Poland, and Slovakia, represent states with a higher level of public debt, lower compliance with the debt and deficit rules, and higher expenditures. Hungary stands out among the states, while Estonia and the Czech Republic have the best compliance scores.

Keywords

Fiscal Reactions, Fiscal Rules, Fiscal Compliance, COVID-19 crisis, Correlation Analysis

JEL Classification

E62, E63, H50

Introduction

The fiscal policies of the states need to be adjusted according to the business cycle, especially in times of crisis. The most recent crisis started in March 2020 and is the COVID-19 pandemic. It led to the first major downturn in European economies since the global recession of 2008-2009. The COVID-19 pandemic affected countries worldwide, including EU member states. Their macroeconomic indicators worsened, and the governments had to borrow additional funds. Expert papers (Zahariev et al., 2021; Czech et al., 2020) and European Commission report affirm that the impact of the current COVID-19 crisis is comparable with the global financial crisis (GFC). However, if structural economic problems caused the recession of 2008-2009, the current one started explicitly due to the spread of the human virus. Some researchers (Strauss-Kahn, 2020; Li et al., 2021) note that the consequences of the current crisis are even more serious than those of the GFC. Unprecedented lockdowns of economies during the pandemic crisis had impacted the labour market, production and supply chains, and international trade. While during the GFC, the response of the central banks was crucial, in a pandemic crisis, fiscal policy has played a central role given the nature of the shock, a public health emergency with unprecedented real effects. Governments intensified their fiscal policy actions and adopted stringent containment measures in the initial stages of the pandemic as it spread worldwide. Also, the support of the EU and governments is more generous this time. During the GFC, the policies of austerity were applied. At the same time, in 2020 EU launched several programmes (SURE, Next Generation EU, Recovery and Resilience Facility) to support businesses, the healthcare sphere, and employees.

Makin and Layton (2021) compare changes in debt and fiscal balance in the world and conclude that debt and imbalance grew faster in 2020 than in the global financial crisis. Strauss-Kahn (2020) made an early prediction and compared the COVID-19 crisis with the GFC. The size of the financial support has been larger in advanced economies than in emerging countries. By mid-May 2020, budgetary measures reached 8.3% of GDP: 6.6 percentage points higher than in the aftermath of the GFC for the G20 countries. In contrast, emerging countries

Corresponding author:
Romana Provazníková, University of Pardubice, Faculty of Economics and Administration, Studentská 84, 532 10 Pardubice, Czech Republic
Email: romana.provaznikova@upce.cz

represented only 2.0% of GDP, even less than in the GFC (Alberola et al., 2021). The reaction of countries to the coronavirus pandemic has become an important issue in many studies. Alberola et al. (2021), Segal and Gerstel (2020), World Bank (2020), and European Commission (2021a) concentrate on the fiscal reaction related to the COVID-19 outbreak for a large sample of countries (G20, world, EU). The OECD report 'Tax and Fiscal Policy in Response to the Coronavirus Crisis' (2020) highlighted the measures countries have applied to combat the coronavirus pandemic. Davoodi et al. (2022) in their study presented an overview of fiscal rules development across the world before and during the pandemic. They compare the reaction of countries in modifying or suspending fiscal rules during the 2008-2010 GFC and the reaction to the COVID-19 pandemic. Although several studies of the fiscal reaction to the first stage of the pandemic were conducted on a sample of countries (Larch & Santacroce, 2020; Zahariev et al., 2021) or individual countries (Li et al., 2021), we focus on the sample of the Baltic and Visegrad countries. Despite the availability of studies on fiscal policies in the Baltic (Staehr & Urke, 2021; Raudla & Douglas, 2020) and Visegrad countries (Melecky & Skutova, 2011; Grabia, 2014; Czech et al., 2020), only a few contain the comparison of these two groups of countries together. These countries are good examples of political and economic integration into the European Union and Eurozone, respectively, and can serve as a model for aspirant EU countries. However, they also struggle with their fiscal policies, have different levels of compliance, and have lower macroeconomic performance indicators compared to the countries of Western Europe.

Our study provides a novel approach to demonstrate how previous fiscal policy performance affects the room for fiscal policy reaction to the COVID-19 pandemic and further compliance with fiscal rules in those two countries. Concerning the already existing studies on a topic, those of Larch and Santacroce (2020), Zahariev et al. (2021), and Staehr (2016) served as an example for our research, giving the incentive to compare the situation in the selected Baltic and Visegrad countries.

The paper aims to study the fiscal reactions of the Baltic (Estonia, Latvia, Lithuania) and Visegrad (Slovakia, Poland, Hungary, Czech Republic) to the COVID-19 pandemic in 2020. Since the role of fiscal policy was crucial in response to the pandemic, it is important to find out how much room for supportive measures governments in individual countries have. Due to this reason, the paper provides evidence of compliance of a selected group of countries with EU fiscal rules since they entered the EU (2004). The correlation analysis between fiscal response in 2020 and countries' fiscal compliance with EU fiscal rules over the period 2004-2019 was carried out in the paper.

Pre-crisis fiscal stance, lessons from the responses to the pandemic crisis in the two groups of Baltics and Visegrad countries are important for using fiscal policy measures in future potential crises. Understanding the implications of the COVID-19 pandemic on fiscal performance can provide policymakers with guidance on reforming or adjusting fiscal rules (not only in researched countries but also in the whole EU).

This paper is organized as follows. Section 2 is divided into two subsections. First provides an overview of the fiscal requirements of the European Union. The second subsection outlines recent studies on public finances and fiscal performance in the Baltic and Visegrad countries over the pre-crisis period. Section 3 presents a methodology and sources of data for our research. Results are provided in the fourth section. This section explores an empirical analysis of the actions taken by governments in the Baltic and Visegrad countries using selected macroeconomic indicators related to the influence of COVID-19. Using correlation analysis, it examines qualitative and quantitative consequences of compliance with the SGP rules for 2004-2019 and 2020. The paper ends with a Discussion and Conclusions part, which summarizes the results of this research and outlines the possibilities for the next.

Literature Review

EU fiscal rules

Before the pandemic, during the past two decades, a growing number of countries have adopted a rules-based fiscal framework. At the end of 2021, about 105 economies have adopted at least one fiscal rule, 11 countries more than the last update in 2015, and 96 countries more than 1985. Fifty-three countries have supranational rules, many complemented by national rules (Davoodi et al., 2022). The large increase in the early 1990s reflected the signature of the Maastricht Treaty, which established debt and deficit criteria for participation in the European Economic and Monetary Union. In 1997, the EU adopted the Stability and Growth Pact (SGP) to strengthen the monitoring and coordination of national fiscal and economic policies to enforce the deficit and debt limits established by the Maastricht Treaty. In 2005 the amendment of the SGP was agreed upon to allow it to consider individual national circumstances better and to add more economic rationale to the rules. In response to the sovereign debt crisis in the Eurozone, the SGP has been tightened considerably, including the imposition of quasi-automatic sanctioning of governments that fail to abide by the rules. New control procedures have been added in the context of the so-called 'six-pack' and 'two-pack' legislations.

According to SGP requirements, there exist four fiscal rules:

1. Budget deficit benchmark. Governments of all EU countries are obliged to maintain a general government budget deficit of up to 3% of GDP.

2. Public debt benchmark. All EU countries are required to keep the general public debt below 60% of GDP.
3. Structural budget balance benchmark. All eurozone member countries and countries under the ERM-II mechanism are expected to reach their medium-term budgetary objectives (MTOs) or to be heading toward them by adjusting their structural budgetary positions at a rate of 0.5% of GDP per year as a benchmark. Budget deficit (or surplus) targets are defined in structural terms. This benchmark was introduced as part of the 2013 reforms ('two-pack' regulations and Fiscal Compact).
4. Expenditure benchmark. Annual growth of net government expenditure must be at or below the county's medium-term potential economic output growth rate depending on the country's position regarding its MTO (Larch & Santacroce, 2020, p. 5). Under the expenditure benchmark, additional discretionary revenue measures must match spending increases beyond a country's medium-term economic growth potential. The expenditure benchmark complements the MTO by putting growth in net expenditure on a sustainable path, helping to move towards or maintain the MTO itself. The expenditure benchmark was introduced as part of the 2011 reforms (the so-called 'six pack').

Finally, based on the Fiscal Compact (part of the intergovernmental Treaty on Stability, Coordination, and Governance, TSCG), the signatory member states commit themselves to implement a fiscal rule in their legislation which requires that the general government budget be balanced or in surplus. The fiscal rule is considered to be respected if the annual structural balance meets the country-specific medium-term objective and does not exceed a deficit (in structural terms) of 0,5% of GDP. If the government debt ratio is significantly below 60% of GDP and risks to long-term fiscal sustainability are low, the medium-term objective can be set as low as a structural deficit of at most 1% of GDP. The Fiscal Compact introduces automatic policies to correct significant deviations, and a national independent monitoring institution is required to provide fiscal surveillance (European Council, 2022).

Obedience to the four rules mentioned above is a key measure of fiscal compliance in EU member states. In case a Member State breaches the SGP's outlined maximum limit for government deficit and debt, the surveillance and request for corrective action will intensify through the declaration of the so-called excessive deficit procedure (EDP), and if these corrective actions continue to remain absent after multiple warnings, the eurozone member state can ultimately be issued economic sanctions.

In response to the COVID-19 pandemic, the European Commission activated a 'general escape clause' of the SGP. This measure allows freer spending and borrowing for the first time since its adoption. All euro area member states became non-compliant with the deficit benchmark. As a result, the European Commission decided not to activate an excessive deficit procedure.

Although several studies (Kukk & Staehr, 2015; Truger, 2015) called into question the effectiveness of new fiscal rules introduced in the Fiscal Compact in stabilizing the fiscal policies of EU countries in the long run, Larch and Santacroce (2020) analysed the compliance rules to review the existing benchmarks for EMU countries. They provided research for all EU member countries before the COVID-19 pandemic (from 1998 to 2019). The authors reported a strong positive correlation between compliance with the debt indicator and total compliance with the rules. Based on this finding, debt is the most precise indicator of fiscal compliance in the EU states. They found that non-euro countries are more compliant with the SGP rules on average; average compliance has a positive correlation with the average deviation, and countries are more compliant with the older 'nominal' rules, debt, and deficit benchmarks than with the older' nominal' rules, debt and deficit benchmarks two newer rules, structural deficit, and expenditure. The Report on Public Finances in the EMU (2021c) described the changes and challenges after the outbreak in the EU.

Baltic and Visegrad countries overview

The common feature of selected countries of the Baltic region and the Visegrad group is the date of entering the EU in 2004. They all are post-socialist countries belonging to the region of Central and Eastern Europe. In the Baltic countries, a more pronounced effort towards European integration was evident; they had adopted the euro as a currency and joined the European and Monetary Union (EMU) in 2011-2015. It could be explained by their size, small population, geographical location, and reduction of Russia's influence. In contrast, the Visegrad countries have a more neutral position towards the EU and keep their original currencies (except Slovakia).

The Baltic and Visegrad countries were objects of interest in studies by some researchers, either as two separate groups of countries or as a single sample. Ruženková and Kašťáková (2018) compared these two regions in terms of competitiveness expressed by main economic indicators and highlighted strengths and weaknesses in their macroeconomic stances. They concluded that Baltic states have higher average competitiveness than the countries of the Visegrad group. Szarowska (2011) researched fiscal policy cyclicality trends, and Melecky and Skutova (2011) and Grabia (2016) reviewed national fiscal rules in Visegrad countries. Bencze's (2014) compilation contains studies on public finances in the Baltic and Visegrad countries and Croatia. Staehr (2016) overviews the fiscal policy measures in Baltic countries after their independence and covers the main events. The Bukovskis (2014) compilation contains papers on the reactions of the Baltic and Visegrad countries to the GFC, Raudla et al.

(2016), in a comparative analysis of three Baltic countries, identified some lessons from GFC. Raudla et al. (2018) studied the reactions of Baltic countries to changes in the fiscal regulations on the level of the EU and the change from nominal to structural balance in fiscal rules compliance monitoring. The change from nominal to structural budget balance rule influenced fiscal policy in Estonia positively but had a restricting impact in Latvia.

The Baltic states' fiscal policies are used to efficiently comply with the SGP rules. During the CFC, Baltic countries applied austerity policies, which helped them recover economies faster (Staehr, 2016). For example, Estonia responds to the GFC with an internal devaluation. This strategy allowed Estonia to maintain a fixed exchange rate, fulfill Maastricht criteria, and adopt a single currency (Baran, 2014). Despite the controversy over the measures, stringent actions helped Latvia and Estonia return to pre-crisis levels faster than other countries. Estonia joined the Eurozone in 2011, first among this group of countries. The country maintained its debt at the lowest level in the EU without exceeding the targets set by the European Commission. Staehr (2016) denotes that Baltic countries have smaller sizes of government (share of expenditures) than countries in Central Europe. The researcher cites Buchen (2007) and Bohle and Greskovits (2012) to prove this statement. Visegrad countries are less compliant with the rules, have higher expenditures, and are more socially oriented in their policies (Bohle & Greskovits, 2012; Buchen, 2007; Grabia, 2016). However, these policies also have advantages. Poland was the only country in the EU that did not experience a decline in GDP during the GFC (Figure 1). Figure 1 illustrates the effect of the GFC and COVID-19 crisis on the development of the real GDP of selected countries. After being positive for seven years straight, the seven states experienced a negative real GDP change in 2020.

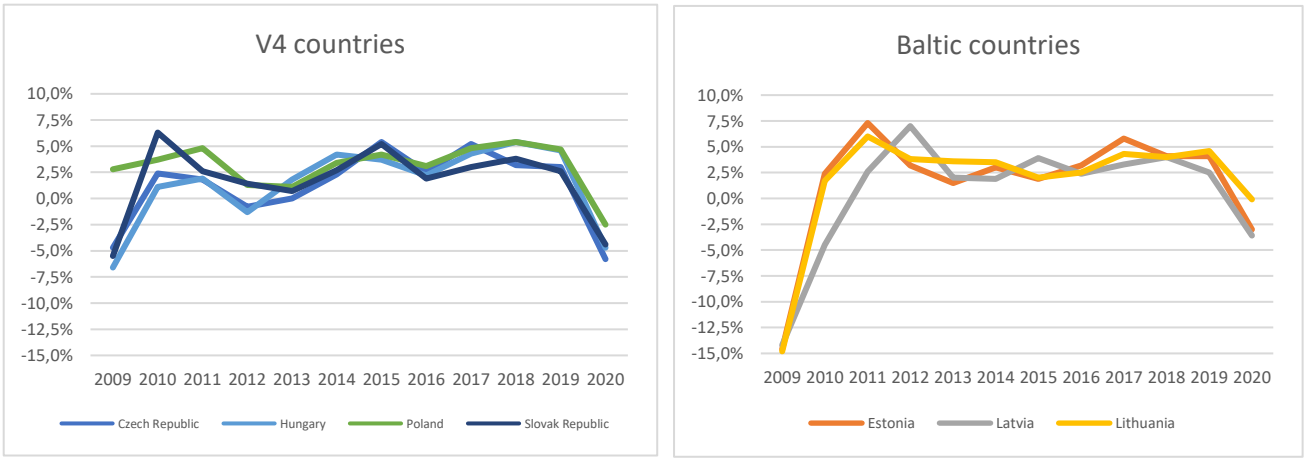

Fig. 1. Dynamic changes in real GDP growth in Visegrad and Baltic counties in 2009-2020 (in %).
Source: Eurostat

Belonging/nonbelonging to the EMU is important for providing independent monetary and fiscal policies. All fiscal obligations do not bind Hungary, the Czech Republic, and Poland; they are more flexible in their expenditure policies. To understand the causes and results of different fiscal responses to the pandemic crisis among these two groups (euro and non-euro) of countries, we analyse their expenditure in the pre-crisis period. Staehr (2016) affirmed that Baltic countries had, on average, 5-10 percentage points lower spending than the Central European ones. He concluded that Baltic countries have a policy of less interference in the market and lower spending, thus having a smaller size of government. Figure 2 shows the lower expenditures of Baltic countries (6 percentage points on average) than Visegrad countries in 2004-2019.

This paper aims to contribute to the knowledge of pandemic reaction in a selected group of countries - the Baltic and Visegrad countries - and to answer how this response has been affected by the countries' previous fiscal policies.

Two research questions have been formulated to meet the aim of the article:

1. How different is the fiscal response to the COVID-19 crisis between Visegrad and Baltic countries?
2. How does the fiscal response of Visegrad and Baltic countries to the COVID-19 crisis (in the 2020 year) correlate with their pre-crisis fiscal indicators?

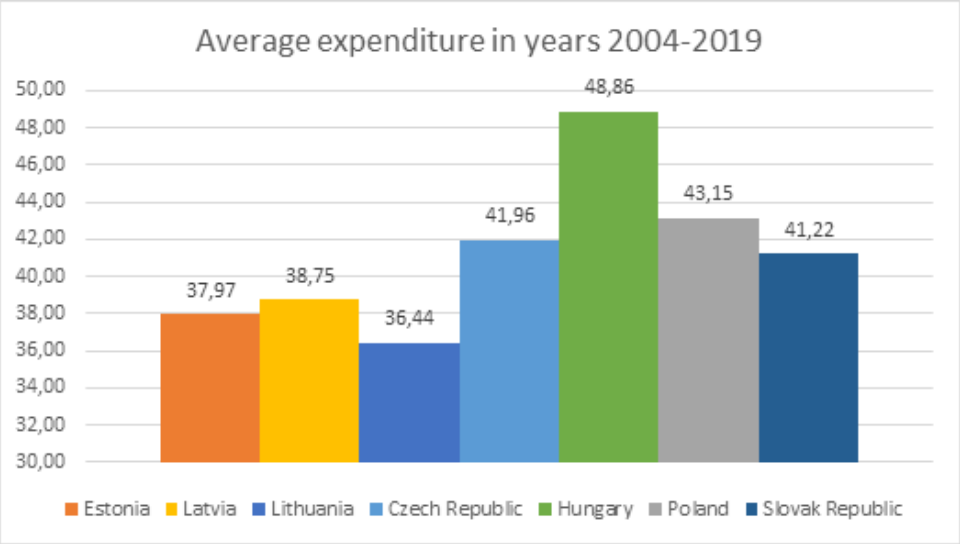

Fig. 2. Average general government spending as a percent of GDP in 2004-2019.
Source: Eurostat

Methods

The comparative analysis method (Gray et al., 2012; Jahn and Müller-Rommel, 2010; Raudla et al., 2016;) was used to answer the first research question and identify the differences between the Baltic and Visegrad countries in their fiscal policies before and during the COVID-19 outbreak. The analysis was based mainly on International Monetary Fund surveys and OECD country Economic surveys.

We follow the correlation analysis used by other authors, Szarowska (2011), Davoodi et al. (2021), Larch and Santacroce (2020), Czech et al. (2020), and Alberola et al. (2021) in fiscal studies, while the latter three used this method for studying COVID-19 related indicators. We validate the findings presented in the study of Larch and Santacroce (2020) on a narrow sample of countries (of which 4 are eurozone countries, 3 are not) and different periods. Additionally, we included in the analysis the results of 2020, when the COVID-19 crisis started.

To answer the second research question, we defined quantitative and qualitative indicators of compliance scores. As a quantitative indicator, we considered numerical compliance with EU fiscal rules as the deviation of the realized outcome from the target or reference value (Larch and Santacroce, 2020, European Commission, 2022). The compliance indicator measures, for each fiscal rule and each year, the ex-post deviation of the realized outcome from the target or reference value in percent of GDP (based on formula 1) is next:

$$C_x = B - I_x \quad (1)$$

where *C* is compliance deviation;

x is year;

B is benchmark;

I is data for a particular fiscal indicator (debt, deficit, etc.).

Based on the quantitative data on deviations in annual compliance scores, we calculated the sum of the compliance deviations measures of four indicators for a particular year:

$$D_{20} = \Sigma(qndb + qndf + qnst + qnex)_{2020} \quad (2)$$

where D_{20} represents the sum of deviations of all rules in the 2020 year for the individual country;

and is the quantitative indicator for the debt rule;

qndf is the quantitative indicator for the deficit rule;

qnst is the quantitative indicator for the structural balance rule;

qnex is the quantitative indicator for the expenditure rule.

We also defined an indicator for calculating the cumulative sum of deviations (CSD) for each fiscal rule separately for the period of years 2004-2019:

$$CSD = \sum_{y=1}^{16} qn_r \quad (3)$$

where CSD is a cumulative sum of deviations;

r is the calculated rule (debt, deficit, structural balance, or expenditure);

qn is the quantitative indicator;

y is year.

For qualitative measurement to fulfill the criterion, we used binary expression - with '0' for non-compliance and '1' for compliance with the rule. An indicator of qualitative compliance score (QLC) by country was created:

$$QLC_{04-19} = \Sigma(qldb + qldf + qlst + qlex)_y \quad (4)$$

where QLC is qualitative compliance score;

qldb is qualitative indicator for debt rule;

qldf is qualitative indicator for the deficit;

qlst is qualitative indicator for structural balance rule;

qlex is qualitative indicator for expenditure rule;

y is year.

Using the indicators above, we compared fiscal rules compliance in the selected countries sample between 2004-2019 and 2020. The start of the period was chosen on the year when all seven entered the EU and had to comply with the EU fiscal regulations. The end of the period represents the year 2019, the last year before the coronavirus pandemic. To determine the relationship between compliance with the rules in the previous 2004-2019 and the 2020 year, we performed the correlation analysis using Pearson's correlation coefficient (formula 5). The year 2020 is compared with the previous period to investigate the influence of pandemics on fiscal rules.

$$r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}} \quad (5)$$

where *x* is a qualitative compliance score (QLC) for 2004-2019;

y is the sum of deviations (D20) of all indicators in 2020.

Qualitative and quantitative data on compliance scores were taken from the database of the European Fiscal Board; other data were collected from the Eurostat database; the data on expenditures and fiscal measures to COVID-19 are from the International Monetary Fund.

Results

Governmental response to COVID-19

A recent analysis by the World Bank Group (2020) reported three stages of measures against the coronavirus crisis:

1. Immediate response

The phase started with the first COVID-19 wave in 2020. Government actions included healthcare system support, tax relief for businesses, and help for those instantly affected by the outbreak. Activating the "general escape clause" of the SGP and cancelling the excessive deficit procedure in the EU are examples of immediate response actions.

2. The recovery phase

This phase is characterized by cancelling some immediate response actions, trying to keep revenue where possible, and keeping relaxed requirements for those businesses and spheres affected. At this time, the government is seeking prudent fiscal policies as conditions start to allow them. The Recovery and Resilience Facility (RRF) measure of the EU belongs to this phase.

3. Sustainability measures

We are applying the new principles and learning for the future from the COVID-19 experience. Governments are becoming more prepared for similar disturbances and can prevent them later.

Fiscal measures in response to COVID-19 were different in terms of size and composition between countries,

although the types of measures were broadly similar. Governments are working to support businesses, households, and the healthcare industry by reducing taxes and supporting the unemployed. The European Commission adopted a Temporary State Aid Framework in March 2020 to support the economies affected by the coronavirus outbreak. According to the European Commission 2021 winter forecast, pre-COVID levels of economic growth will bounce back by the middle of 2022 (European Commission, 2021b). To soften the consequences, the EU activated a general escape clause of the SGP, which means that requirements of fiscal stability measures will not apply until the end of the 2022 year (European Commission, 2021c)1.

The European Union also launched the "Next Generation EU" and "SURE" programmes to mitigate the consequences of COVID-19. The Recovery and Resilience Facility instrument, as part of "Next Generation EU," is planned in the EU until 2026. The states of the euro area agreed on the adoption of three safety nets, including support for businesses (from the European Investment Bank), employees (SURE), and governments (Pandemic Crisis Support credit line).

Additional national governmental measures were presented to support households: paid sick leave, an extension of unemployment benefits, and cash transfers. Abolishing taxes on medicine and medical equipment and simplifying import procedures are the actions that support the health care system. Measures to support businesses include deferral of tax payments (probably the most common measure taken to release the burden on the private sector), tax waivers, tax rate reductions, and accelerated tax refunds. Other sources need to replace the revenues received from the tax payments. It requires countries to borrow additional funds in a short period (Zahariev et al., 2021).

Makin & Layton (2021). Alberola et al. (2021) and Segal and Gerstel (2020) reported that the size of the financial support has been larger in advanced economies than in emerging countries. High-income countries spend more in absolute numbers, as well as in terms of share of GDP. Advanced economies also responded faster to COVID-19, having already implemented their fiscal response measures in March 2020. Although emerging economies responded mostly to the crisis starting from May 2020.

Fiscal response to COVID-19 in Baltic and Visegrad countries

Estonia previously used the policy of austerity in times of the GFC crisis. After the 2008-2009 crisis, Estonia's fiscal policy proved to be the most sustainable among the three countries, as its budget deficit rose very little in the years after the GFC (Raudla et al. (2016). In reaction to COVID-19, used counter-cyclical fiscal measures to help the economy (Parlament of Estonia, 2020). The GDP contracted by 2,9% in 2020, among the mildest in the EU, reflecting strong initial conditions and less stringent restrictions in 2020 (IMF, 2021c). In response to the pandemic, the Estonian government provided additional funds to the healthcare sector and offered (at least partial) compensation to the private actors for the lockdown measures. It increased public investments to stimulate the economy. One of the key instruments in addressing the labour market was temporary wage compensation: the Unemployment Insurance Fund paid 70% of salaries to employees of those companies that were facing financial difficulties due to the pandemic. The increased expenditure meant that the government borrowed additional funds (e.g., Nordic Investment Bank, Europe Development Bank) and issued long-term bonds. The 2020 COVID-19 support package IMF (2021c) estimated € 2,3 billion (8,5% of GDP). The wage compensation measure worked well in avoiding a dramatic surge in unemployment. The unemployment rate increased from 4,4% in 2019 to 6,8% in 2020, which remained lower than the Euro-area average of 7,8%. As experts from OECD (2022a) state, the fiscal measures helped to offer a softer landing for the economy than would have been the case in the absence of counter-cyclical measures.

Latvia met all fiscal criteria before the COVID-19 pandemic. The government introduced substantial fiscal support to counter the pandemic, albeit less than in most other EU countries, largely because less was needed in the absence of a severe first wave of COVID-19 in Latvia in the spring of 2020 (OECD, 2022b). According to Ministry of Finance data from early January 2022, total support, including sectoral budget financing, personal benefits, tax payment deadline extensions, loans and guarantees, and spending of additional EU funds, amounted to 4,4% of GDP in 2020. The largest amounts of money focused on businesses in the form of loans and guarantees; the other package was allocated to sectoral support (primarily tourism, healthcare and education, SMEs, and investment project). Other funds were directed to the most vulnerable workers and social benefits. The government approved supporting schemes (financed partly by the Eurobonds issuance and partly from the budget) offered to large enterprises affected the most, as well as small businesses and agriculture (IMF, 2021c).

In Lithuania, the COVID-19 recession was comparatively mild (GDP contracted 2% in 2020). The government announced an overall package of €5bn (10% of 2020 GDP), equally split between fiscal and financial support. As well as measures to preserve jobs and incomes, maintain business liquidity, and stimulate the economy. The initiative includes short-time work schemes and support for non-standard workers (OECD, 2020c). The government expanded guarantee schemes, including guarantees for agricultural and SMEs and cheap loans targeted to hard-

[1] Reacting to the economic consequences of the Russian invasion of Ukraine, the European Commission postponed the renewed enforcement of its fiscal rules by a year to 2024.

hit sectors like travel and accommodation services. The government introduced a business support fund to provide loans and equity securities. Pandemic-related support, particularly the comprehensive and well-funded short-term work scheme, has been driving fiscal positions – in 2020, the fiscal policy was highly expansionary.

Czech Republic. Low public debt before the crisis gave ample fiscal space to extend fiscal assistance. The government implemented a fiscal package of CZK 228.6bn (€8,6bn, 4 % of GDP in 2020) (IMF, 2021c). The government introduced job retention schemes, benefit payments to the self-employed, income support for childcare workers, and tax deferrals. Moreover, a COVID loan and guarantee programme was launched to boost firm liquidity, notably for SMEs. Deferrals of rent and loan repayments have also been offered. The duration and scope of many of these programmes have been extended following the resurgence of cases and the reintroduction of containment measures. The government approved measures to selectively support affected sectors of tourism, accommodation, culture, sport, transportation, etc. According to OECD (2020b), the coronavirus job retention schemes effectively preserve existing jobs but cannot replace active labour market programmes and retraining for job seekers. These programmes currently receive little financial support and should be boosted to facilitate job reallocation.

Annual GDP in Poland declined 2,7% in 2020, indicating the first recession since 1991. Nevertheless, the authorities raised social expenditures even before the crisis, and spending commitments on some social programmes rapidly increased (OECD, 2020d). The fiscal policy response to the first wave of the pandemic was sizeable, estimated at PLN 116bn (5,2% of 2020 GDP). This package aimed at preserving jobs by sustaining business liquidity and boosting healthcare spending. The measures extended income support to numerous self-employed and temporary workers. The government enhanced transfers to local authorities and postponed loan repayments to avoid widening inequalities due to the pandemic. National bank guarantees were provided to enterprises, and additional loans were offered to SMEs. Regarding employees, work permits for foreign workers were extended, and unemployment benefits were increased (IMF, 2021c).

In 2016-19, Hungary had strong economic growth with large increases in employment and real incomes, while unemployment fell to its lowest level in the past 30 years (OECD, 2021). The outbreak hit the economy hard because it is tightly intertwined globally through supply chains and tourism. The response to the crisis in 2020 comprised measures on the revenue side (notably a reduction in the fiscal burden: cancellation of the 80000 small business tax, employers' social contributions lowering, health care contributions, provision of tax relief for specific sectors (services, tourism). On the expenditure side, the healthcare sector was supported with multiple programmes, job protection by subsidizing wages to companies on workers who were put on shortened work hours and job creation by supporting investment, and additional support for specific areas (tourism, logistics, healthcare, entertainment, and others), and provisions of interest-subsidized credits to local companies. The government also introduced export support to companies through grants, loans and guarantees, and interest-free loans for SMEs. Unemployment rose only slightly in 2020 thanks to the short-time working scheme in the first wave. In the second wave, the scheme was replaced by a sectoral wage subsidy, focusing on the most affected sectors as in many other countries (OECD, 2021).

In Slovakia, there relatively low public debt and deficits before the crisis provided the space for a significant fiscal expansion to support the economy. Extra spending reinforced health sector capacity, while job retention schemes and support to self-employed workers helped save jobs and limited household income declines. Liquidity measures, including loan payment deferrals and loan guarantees, kept firm insolvencies low (OECD, 2022c). The total of measures equalled 2,1% of GDP in 2020. In addition, liquidity support in the form of government-guaranteed loans and tax deferrals amounted to 1,6% of the GDP of 2020 (IMF, 2021c). The government allocated 4 billion euros to support businesses of all sizes.

The sizes of the fiscal response are shown in Table 1.

Table 1. Fiscal response to COVID-19 in 2020 of selected countries (as a percentage of GDP).

Country	Health sector	Non-health sector	Total above-the-line measures	Liquidity support	Total measures
Czech Republic	1,2	4,3	5,4	15,5	20,9
Estonia	0,9	2,6	3,5	5,1	8,6
Latvia	0,7	7,2	7,9	2,0	9,9
Lithuania	1,0	3,7	4,7	2,8	7,5
Hungary	1,2	2,8	4,0	4,2	8,2
Poland	0,4	7,3	7,7	4,8	12,5
Slovak Republic	0,1	3,6	3,8	1,7	5,5

Source: IMF (2021c)

Above-the-line measures include all changes in expenditure and taxation related to the COVID-19 pandemic. They include health and other sector expenditures. Liquidity support is a scope of measures to finance the temporary shortfall related to COVID-19 and includes equity injections, loans, guarantees, quasi-fiscal operations, and other expenses. The Czech Republic stands out from other countries by the percentage of liquidity support, almost all of which was allocated as guarantees.

As illustrated in the data from Table 2, non-euro countries spent significantly more to deal with the consequences of the COVID-19 crisis.

Table 2. Fiscal response to COVID-19 in 2020, comparison of groups (as a percentage of GDP).

Baltic	8,7	Euro area	7,9
Visegrad	11,8	Non-euro area	13,9

Source: IMF (2021c)

As a result of the government mentioned above support, the coronavirus pandemic negatively affected the countries' budget balances (Table 3). Spending increased significantly compared to the previous year, while revenues indicate a smaller increase. We can detect the change during a crisis by calculating the difference between the indicators in 2019 and 2020.

Table 3. Budget balance in 2019 and 2020 (as a percentage of GDP) and difference in 2019-2020.

Country	2019	2020	Change
Czech Republic	0,3	-5,6	-5,9
Estonia	0,2	-5,6	-5,8
Latvia	-0,6	-4,5	-3,9
Lithuania	0,4	-7,2	-7,6
Hungary	-2,1	-8,0	-5,9
Poland	-0,8	-7,2	-6,4
Slovak Republic	-1,4	-5,5	-4,1

Source: Eurostat, own calculations

Different expenditure and compliance policies impacted the change in unemployment in 2019-20. Unemployment rates rose on average by 0,55 percentage points in Visegrad countries and by 2,13 percentage points in the Baltics, while in Poland, unemployment even fell by 0,1% during this time. It follows that the governments of Visegrad countries were more socially oriented in their policies than those of the Baltic countries, thus proving the statement of Staehr (2016). To keep deficit and debt lower, governments must let unemployment rates increase. This finding corresponds with evidence that unemployment is higher in countries in the Eurozone and increases faster in the Baltic countries than in the Visegrad countries. Unemployment is directly correlated with government expenditures and is inversely correlated with compliance with the fiscal rules imposed by the EU.

Pre-crisis compliance with fiscal rules and changes as a result of COVID-19 in Baltic and Visegrad countries

According to the methodology described in the second part, compliance with fiscal rules is considered a qualitative (0 – red colour, non-compliance with the rule, 1 – green colour, compliance with the rule) and quantitative compliance indicator. We applied formula (1) for each indicator for expression quantitative compliance measures. For example, in 2020, the public deficit in the Czech Republic was 6,2% (-3,2 = 3 - 6,2), and the public debt was 38,1% 21,9 = (60 - 38,1). Indicators for a selected sample of countries are presented in Table 4.

Reuter (2019) reports that the Member states complied with the EU fiscal rules only in 50% of the cases. The only country in our sample that complied with all rules in 2019 was the Czech Republic. All considered countries met the debt requirement in 2019, and all Baltic countries complied with it in 2020. The Baltic states have a prudent debt policy, and their debt levels represent the lowest levels in the EU. Hungary and Slovakia became non-compliant with debt in 2020. The deficit fell below 3% in the seven countries in 2020. Haroutunian et al. (2020) concluded that no country in the EU was compliant with the deficit rule due to the pandemic.

In order to express the response of the individual country to COVID-19 in the year 2020, we use formula (2) and data on deviations from Table 4 and calculate the D20 indicator as the sum of deviations of four indicators for 2020 by country. This indicator further enters into the calculation of Pearson's correlation coefficient.

Table 4. Quantitative and qualitative compliance with the fiscal rules in the Baltic and Visegrad countries in 2019 and 2020.

Country	Rule	Qualitative		Quantitative		Country	Rule	Qualitative		Quantitative	
		2019	2020	2019	2020			2019	2020	2019	2020
Czech Republic	Deficit rule	1	0	3,3	-3,2	Estonia	Deficit rule	1	0	3,1	-1,9
	Debt rule	1	1	29,7	21,9		Debt rule	1	1	51,6	41,8
	Structural balance rule	1	0	0,2	-3,7		Structural balance rule	0	0	-0,2	-2,1
	Expend. rule	1	0	0,1	-3,5		Expend. rule	0	0	-0,9	-4,0
Hungary	Deficit rule	1	0	0,9	-5,1	Latvia	Deficit rule	1	0	2,4	-1,5
	Debt rule	1	1	5,3	-12,5		Debt rule	1	1	23,0	16,5
	Structural balance rule	0	0	-0,5	-2,9		Structural balance rule	1	0	0,1	-2,2
	Expend. rule	0	0	-0,7	-4,4		Expend. rule	0	0	-0,8	-4,2
Poland	Deficit rule	1	0	2,3	-4,0	Lithuania	Deficit rule	1	0	3,5	-4,4
	Debt rule	1	1	14,4	2,5		Debt rule	1	1	24,1	12,9
	Structural balance rule	1	0	-1,5	-4,2		Structural balance rule	1	0	0,0	-5,7
	Expend. rule	0	0	-1,7	-5,6		Expend. rule	0	0	-1,2	-6,4
Slovak Republic	Deficit rule	1	0	1,7	-3,1	Slovak Republic	Structural balance rule	1	0	-0,9	-2,9
	Debt rule	1	1	11,8	-9,5		Expend. rule	0	0	-1,2	-3,2

Source: European Fiscal Board (2021)

For the calculation of the qualitative compliance with rules by country in the whole period prior to the pandemic (2004-2019), the formula (3) for qualitative compliance score (QLC) was applied. Results are shown in Table 5.

Table 5. D_{20} and *QLC* scores for selected countries.

Country	Total response in 2020 (D20)	Compliance 2004-2019 (QLC)
Czech Republic	11,6	53
Estonia	33,8	47
Latvia	8,6	38
Lithuania	-4,4	42
Hungary	-24,9	26
Poland	-11,2	33
Slovak Republic	-18,8	36

Source: European Fiscal Board (2021c), own calculations

Table 6 contains the cumulative sum of deviations (CSD) for each rule for 2004-2019 based on the formula (3).

As we see from Table 6, there is a considerable difference between the Baltic and Visegrad countries in terms of debt. Our findings are in line with observations of Larch and Santacroce (2020) - all countries investigated in our sample in 2004-2019 confirm their statement that EU countries comply better with what they call 'nominal rules', the ratio of debt and deficit to GDP, except Hungary and Poland. The deficit and debt rules were originally adopted by the European Union and are included in the SGP. In contrast, the structural balance and expenditure rules were introduced later as part of the reform of the SGP. Deficit and debt fiscal rules are the only rules non-euro area countries must comply with. It is interesting to see the differences between nominal and structural budget balance compliance. Raudla et al. (2018) mentioned that introducing the structural balance rule positively impacted Estonia but negatively impacted Latvia. As can be seen, Estonia is also more compliant with this rule. Table 6 shows that only two countries, Estonia, and the Czech Republic, have positive total-sum structural budget balances.

Table 6. Cumulative sums of deviations (CSD) from compliance for 2004-2019 in the Baltic and Visegrad countries.

Country	Fiscal rule	Sum of compliance deviations (2004-2019)	Country	Fiscal rule	Sum of compliance deviations (2004-2019)
Czech Republic	Deficit rule	21,1	Estonia	Deficit rule	52,7
	Debt rule	407,7		Debt rule	841,2
	Structural balance rule	6,6		Structural balance rule	5,1
	Expenditure rule	6,4		Expenditure rule	2,9
Hungary	Deficit rule	-17,1	Latvia	Deficit rule	11
	Debt rule	-34,6		Debt rule	453,5
	Structural balance rule	-2		Structural balance rule	-5,2
	Expenditure rule	-1,2		Expenditure rule	-7,7
Poland	Deficit rule	-8,7	Lithuania	Deficit rule	12,3
	Debt rule	159,8		Debt rule	464,7
	Structural balance rule	-6,3		Structural balance rule	-3,7
	Expenditure rule	-2,4		Expenditure rule	-4,3
Slovak Republic	Deficit rule	-4,3	Slovak Republic	Structural balance rule	-8,1
	Debt rule	258,9		Expenditure rule	-9,4

Source: European Fiscal Board (2021c), own calculations

Finally, to examine the correlation between the qualitative compliance score for the pre-crisis period (QLC_{04-19}) and the sum of compliance deviations from the rules in the 2020 year (D_{20}), we used the Pearson correlation coefficient (formula 5). The results are shown in Figure 3.

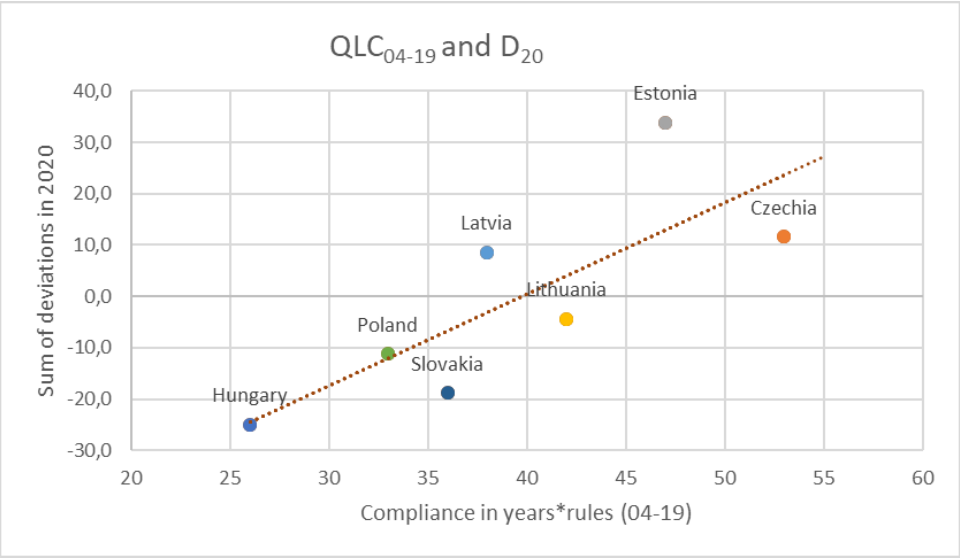

Fig. 3. Correlation between compliance through the years (2004-2019) and deviation in 2020.
Source: own calculations

A significant positive correlation (0,79) is found between the compliance of the countries with the fiscal rules (QLC) for 2004-2019 and the sum of deviation (D_{20}) in the year 2020. This result suggests that the Baltic countries have a stronger fiscal stance in 2020, during the COVID-19 crisis. As a result, countries that were more compliant with the rules before the crisis were also more compliant during the crisis. The Baltic countries are more compliant with the rules and have positive deviations. The only exception represents the Czech Republic from Visegrad countries.

Table 7 presents the average qualitative compliance score (QLC_{04-19}) for the Euro and non-euro countries. Compliance with the rules in our groups of countries is higher in euro-area countries than in non-euro areas. These conclusions are not supported by results presented by Larch and Santacroce (2020) that non-euro areas, on average, complied with rules better than eurozone countries. The possible explanation should be the QLC score

QLC of the Czech Republic as a non-eurozone country. (Table 5).

Table 7. Average QLC compliance in years 2004-2019 by euro area membership.

Average QLC04-19 by a Euro area membership	
euro	39,8
non-euro	37,3

Source: own calculations

In all cases, Hungary has lower compliance scores, a higher negative deviation from the rules, and higher debt. The data fit into a context of higher expenditures in Hungary than in the other countries studied (Figure 2).

Correlation between compliance with fiscal rules and debt

The European Commission, in the Report on Public Finances by EMU (2021), highlights one of the major challenges during the COVID-19 crisis, the increase in government debt. Non-compliance with the debt rule may restrict the country's ability to respond to the new shocks with an appropriate fiscal reaction.

As seen in Figure 4, our results for the Baltic and Visegrad countries are consistent with those obtained by Larch and Santacroce (2020) in their study. Countries with lower compliance experience exhibit a higher increase in the debt-to-GDP ratio. A significant indirect correlation is shown between compliance with the fiscal rules (QLC_{04-19}) over the years and an increase in public debt in 2020 (negative numbers mean an increase in public debt).

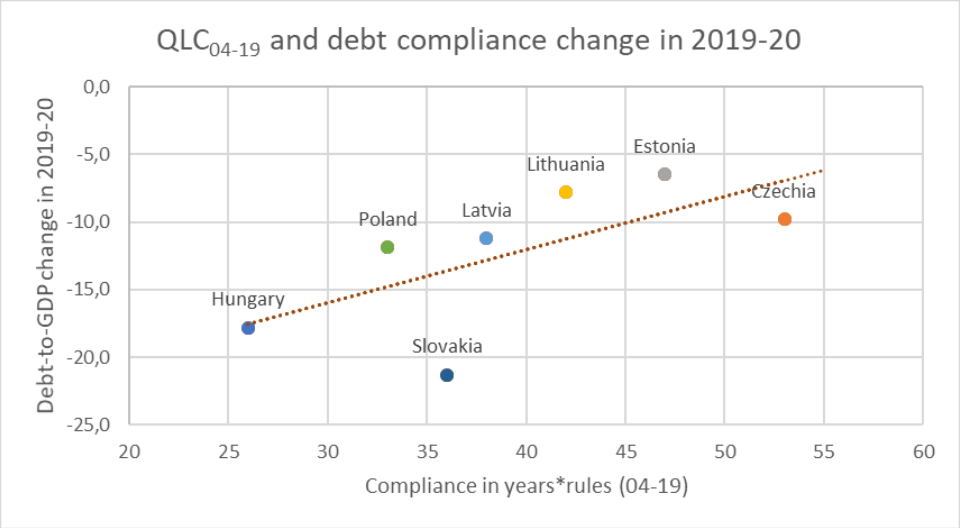

Fig. 4. Compliance in 2004-2019 (QLC) and debt-to-GDP (debt compliance) change in 2020.
Source: own calculations

In Table 8, Pearson's correlation coefficients between QLC_{04-19} and the change in debt compliance in 2019-2020 are 0,66 (0,81 without Slovakia). It follows that the change in debt compliance is an accurate indicator of the fiscal compliance of the country. The observation of Larch and Santacroce (2020) for all EU countries was proven for the Baltic and Visegrad countries. An additional correlation analysis was performed to study the effects of compliance on the other three EU fiscal indicators. Only the debt compliance correlation result is significant enough among the four indicators (Table 8).

Table 8. Correlations between qualitative compliance scores in 2004-2019 and change in the rule in 2020.

Rule/Period	2004-2019
QLC_{04-19}/$Debt_{20}$	0,66
QLC_{04-19}/$Deficit_{20}$	-0,12
QLC_{04-19}/Structural $balance_{20}$	-0,33
QLC_{04-19}/$Expenditure_{20}$	-0,07

Source: own calculations

If we calculate the opposite relationship between debt compliance in 2004-19 and D_{20} for seven countries, the correlation is even higher: 0,94. The debt indicator in previous years can correctly predict the country's fiscal compliance performance.

Discussion

In our paper, we answered two research questions introduced in the methodological part:

1. How different is the fiscal response to the COVID-19 crisis between Visegrad and Baltic countries?
2. How does the fiscal response of Visegrad and Baltic countries to the COVID-19 crisis (in the 2020 year) correlate with their pre-crisis fiscal indicators?

It is important to mention the construction of fiscal rules for the EU states to answer the first research question. At the same time, their validity is different for Eurozone countries than for non-eurozone countries. Non-euro countries are not obliged to obey part of fiscal rules and could afford to be more flexible in spending before and during the COVID-19 crisis. The expenditure statistics are consistent with this statement. The expenditures of Visegrad countries were higher than those of the Baltic during 2004-2019. Our results correspond with those obtained from the IMF (2021c) and show that the Visegrad group and non-euro area countries spent more funds in response to the crisis (than Baltic and euro area countries accordingly). It may positively or negatively influence the economy, depending on the ability to effectively use expenditure spending. Such flexibility helped the Czech Republic, while Hungary demonstrated unsatisfactory economic performance and compliance with fiscal indicators. Similar results are obvious regarding the limitations set by the fiscal rules, reported by Raudla et al. (2018), new more strict requirements of SGP and Fiscal Compact improved Estonia's fiscal consolidation, while Latvia coped with them more poorly. In general, non-euro countries are not bound by the fiscal coordination provisions set in the Fiscal Compact. However, the Czech Republic stands out as an exception to the trend (Zubíková & Smolák, 2022). Although, at the same time, it exhibits the lowest unemployment. To explain after facts mentioned, deeper analyses of the macroeconomic environment and specific economic conditions in individual countries are needed.

The second research question was answered by conducting a correlation analysis. The positive relationship between compliance with fiscal rules and deviation was reported in our analysis: countries with a higher compliance score (QLC) with rules in 2004-2019 also refer to lower deviations from them in 2020. However, unlike the conclusion by Larch and Santacroce (2020), the non-euro area countries, in this case, were less compliant with the rules than the euro ones in 2004-2019 and 2020. Countries not parties to the EMU (Hungary, Poland) exhibit higher spending and higher public debt (Grabia et al., 2016; Szarowská, 2011; Truger, 2015). The Baltic countries (and EMU members among the selected) demonstrate stronger adherence to the rules and have lower deviations. These results align with Staehr's (2016), Raudla and Douglas's (2020) studies. Similar to Ružeková and Kašťáková (2018) research which found Baltic countries more competitive in terms of macroeconomic indicators, we proved that Baltic countries are more resilient to fiscal shocks than the Visegrad ones. Higher compliance with the 'nominal rules' was observed for all countries except Poland and Hungary. Drawing parallels with Szarowská (2011), we found that the cyclicality of the fiscal policy in the Visegrad group countries remains an issue, expressed in increased expenditure in response to the COVID-19 crisis.

Similar to the research by Larch and Santacroce (2020), our correlation analysis showed that debt compliance is a crucial indicator of the overall fiscal performance of the country. If the country followed the debt indicator in the previous period, it also showed better compliance with the four fiscal rules. Moreover, vice versa, if the country reached a better qualitative compliance score (*QLS*) before 2020, then the debt reported in 2020 was also lower. Although the correlation between historical compliance and deviations in 2020 appears evident in our research, the connection between compliance and debt increase needs to be clarified. The dependence might be the opposite; as countries were already less compliant with the rules, they may try to limit additional borrowing. However, there is only a very crude argument that needs to be investigated in individual countries. The borrowing depends on the level of the debt-to-GDP ratio and other macro indicators.

Conclusion

Contributions and practical implications

Results of our research showed the differences in response to COVID-19 among individual countries in size, not so much in the type of fiscal measures, which were by nature similar in countries. We proved that, in the long run, compliance with fiscal rules is an important limiting factor for the implementation of discretionary fiscal policy in times of crisis. One point to be considered in the group of Baltic countries: while in previous crises, they represented a strong commitment to fiscal discipline, in response to the COVID-19 pandemic, they adopted the counter-cyclical policy as the Visegrad group of countries. However, in comparing these two groups, we proved that the Visegrad group countries spent more funds in response to the crisis than the Baltic. The results were similar for the non-euro area and euro area countries accordingly. The non-euro area countries have increased their expenditure to a greater extent than euro ones, showing lower unemployment results. Such phenomena could be explained by Eurozone countries having to comply with Fiscal Compact.

Regarding compliance with fiscal rules, dividing countries into two subgroups according to their fiscal stance before 2020 and their reactions to the shocks is possible. The first group, consisting of Hungary, Poland, and Slovakia,

represent countries with a higher level of public debt, lower compliance with the debt and deficit rules, and higher expenditures. Hungary stands out among the countries in the region, with the highest public debt, lowest compliance, and highest expenditure as a percentage of GDP. The countries with the best compliance scores are Estonia and the Czech Republic. Though the Czech Republic is not a member of EMU, it demonstrates a higher compliance score than EMU member countries such as Latvia, Lithuania, and Slovakia. These findings are in contrast with some other research (Ružeková & Kašťáková, 2018; Larch & Santacroce, 2020).

From the statement mentioned above, despite better fiscal compliance of Eurozone countries due to the COVID-19 crisis, participation in Fiscal Compact has advantages and disadvantages. Though fiscal requirements keep the country's fiscal positions more stable and expenditures lower, non-Eurozone countries have more freedom in their fiscal policy and a greater ability to regulate unemployment rates. However, the compliance figures for Hungary look unpromising, as expenditures are highest there, and the country needs to comply with the fiscal rules. The Czech Republic is the only exception to this rule, as it managed to keep low expenditure while complying with all fiscal rules. In general, Euro area membership increases the benefits of countries with a disciplined economic and fiscal policy. It creates an assumption that other factors, except being a member of the Eurozone, influence the compliance with rules (e.g., GDP per capita dependency on, which is higher in the Czech Republic than in other considered states, structural problems, income inequalities, and poverty, high rate of unemployment, etc.). Future research can focus on finding other factors influencing compliance with fiscal rules in EU member states.

Our observations about the correlation between previous compliance and fiscal rules proved true for the Baltic and Visegrad countries. Countries that reached better compliance with the fiscal rules in the years preceding the pandemic also exhibited lower deviations from those in the crisis year (2020). This rule was valid for all seven countries considered.

Limitations and future research

We are aware of some limitations of our research. The present study only examined when the COVID-19 pandemic was not yet over. More recent data on the monitored indicators were unavailable in individual countries or the international database (Eurostat database). Many studies (European Commission, 2021c; Makin & Layton, 2021; IMF, 2021c) expected a rebound in 2021. Therefore, further research can be conducted on the change in fiscal compliance in 2021-2022. Additionally, more indicators could be studied with compliance - correlation with fiscal policy's cyclicality or energy and environmental expenditures. The present findings could help better understand the problems and potential challenges faced by EU and Baltic and Visegrad countries.

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