

**AN EVALUATION AND COMPARATIVE ANALYSIS OF FISCAL  
AND MACRO-FINANCIAL POLICIES DURING THE COVID-19  
PANDEMIC: THE CASE OF BULGARIA IN THE BALKAN  
CONTEXT<sup>3</sup>**

*This paper presents a comprehensive analysis of Bulgaria's response to the COVID-19 pandemic, offering valuable insights for policymakers and researchers grappling with similar challenges globally. The study highlights the multifaceted approach undertaken by Bulgaria, incorporating fiscal, and macro-financial policies to navigate unprecedented challenges. The effectiveness of these measures is underscored by the nation's relative economic resilience, with milder GDP contraction and stable unemployment rates compared to some EU member states. The post-pandemic era presents new challenges, including sector-specific issues, inflationary pressures, and the imperative of fiscal sustainability. Comparative regional analysis with neighbouring Balkan countries and EU member states provides additional context, revealing shared challenges and diverse recovery paths. Particularly, our econometric analysis using data from Balkan countries suggests that higher pre-pandemic inflation rates constrained fiscal expansion, richer countries were more capable of expansionary policies, higher Covid-19 infection rates prompted more expansionary measures, and stringent public health measures led to less expansionary policies in Balkan governments. Looking ahead, international collaboration, regional cooperation, and efforts to strengthen resilience are pivotal for Bulgaria's economic future. Lessons drawn from this experience underscore the necessity of adaptability, transparent communication, and prioritizing sustainability and inclusivity in future policymaking, contributing to the broader global discourse on crisis management.*

*Keywords: Covid-19; Bulgaria; Balkan; Panel Data; Fiscal Policy; Macro-Financial Policy*

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## **1. Introduction**

The COVID-19 pandemic has undoubtedly emerged as one of the most significant global challenges of our time, disrupting economies, societies, and healthcare systems worldwide. Governments across the globe have been forced to respond rapidly to the evolving crisis, implementing a variety of economic policies aimed at mitigating the adverse effects of the pandemic. The pandemic has also drastically affected the Bulgarian economy. As of January 2024, a total of 1.32 million confirmed cases and more than 38 thousand confirmed deaths (corresponding to about 2.88% case-mortality rate) have been reported in the country. For a country with a population of 6.65 million people, this roughly corresponds to close to 20% of the population being infected at some point in the last four years.

This paper seeks to contribute to the ongoing discourse surrounding the economic implications of COVID-19 by conducting an in-depth evaluation and comparative analysis of the economic policies adopted during the pandemic, with a specific focus on Bulgaria within the broader context of the Balkans and the European Union (EU). The unprecedented nature of the COVID-19 crisis required nations to devise innovative and adaptive economic strategies to sustain their economies, protect livelihoods, and ensure social stability. Understanding how Bulgaria navigated through these turbulent times provides valuable insights for policymakers, economists, and researchers seeking to formulate effective responses to future global challenges. The paper will not only scrutinize the economic policies implemented during the pandemic but also contextualize Bulgaria's experience within the unique socio-economic dynamics of the Balkans and its broader integration into the EU.

The COVID-19 pandemic forced nations to confront unprecedented challenges, both in terms of public health and economic stability. Governments were confronted with the delicate task of balancing the immediate need to contain the virus's spread with the imperative to sustain economic activities and protect the well-being of their citizens. The urgency and severity of the situation necessitated swift and decisive policy responses, prompting countries to employ a diverse range of strategies. In this context, a critical examination of economic policies implemented during the pandemic becomes essential. The efficacy of these policies can be evaluated by considering their short-term impact on economic indicators such as GDP growth, unemployment rates, and inflation, as well as their long-term consequences for economic resilience and recovery. By focusing on Bulgaria, this paper aims to contribute to the broader understanding of how a nation's policy responses during a crisis can shape its economic trajectory, influence regional dynamics, and interact with supranational entities like the EU. As we embark on this exploration, it is crucial to recognize that the economic challenges posed by the pandemic are not isolated but interconnected with broader regional and international dynamics. This comparative lens aims to uncover patterns, best practices, and potential areas for improvement in economic policymaking during crises.

The structure of this paper reflects a systematic approach to analysing the economic policies adopted during the COVID-19 pandemic. Following this introduction, the subsequent sections will delve into a comprehensive literature review, providing insights into the global landscape of economic responses to the pandemic. Building on this foundation, the paper will then turn its attention to the pre-pandemic economic conditions in the Balkans, offering a

nuanced understanding of the region's starting point before the crisis hit. Section 4 will provide a detailed overview of the economic policies implemented by Bulgaria during the pandemic, with an emphasis on fiscal measures, monetary policies, and social support programs, along with a regression analysis of the fiscal and macro-financial policy measures. Section 5 evaluates the effects of economic policies during and after the pandemic. Finally, the Conclusion section highlights the key points raised in the paper.

## **2. Literature Review**

The COVID-19 pandemic has prompted an unprecedented global response from governments, requiring swift and adaptive economic policies to navigate the multifaceted challenges it presented. The literature surrounding the economic responses to the pandemic is rich and diverse, reflecting the global community's collective efforts to understand, adapt, and learn from the crisis. This section offers a comprehensive review of the existing literature, drawing on key academic works and research studies that shed light on the various economic policies implemented during the COVID-19 pandemic.

Numerous studies have explored the wide array of economic policies enacted by countries around the world in response to the COVID-19 pandemic. One notable example is the work of Baldwin and Weder di Mauro (2020), who conducted a comprehensive analysis of policy responses, categorizing them into fiscal, monetary, and financial measures. They emphasized the importance of a coordinated and multifaceted approach to address the challenges posed by the pandemic. Similarly, McKibbin and Fernando (2020) highlighted the significance of international cooperation in mitigating the global economic impact, emphasizing the need for coordinated fiscal and monetary policies. The role of fiscal policy has been a focal point in the literature, with studies like Auerbach and Gorodnichenko (2020) exploring the effectiveness of fiscal stimulus packages in supporting economies during the pandemic. The International Monetary Fund (IMF) has also played a pivotal role in assessing global economic responses, offering policy recommendations and insights into the evolving economic landscape (IMF, 2020). Monetary policy has been another critical aspect of the pandemic response, with central banks implementing unconventional measures to stabilize financial markets and support economic recovery. A study by Gourinchas et al. (2020) examined the role of central banks in mitigating the economic fallout, emphasizing the need for flexibility in monetary policy frameworks. The European Central Bank (ECB) has been particularly active in this regard, with its Pandemic Emergency Purchase Program (PEPP) being a notable intervention (ECB, 2020).

In this context, the study by Alamarat et al. (2024) stands out for its empirical analysis of fiscal policy's impact on economic growth in Southeast European countries. Their findings underscore the positive influence of fiscal policy instruments on economic growth in the region, highlighting the importance of sound fiscal management for stimulating economic activity. These insights complement the broader discourse on economic policies during crises, emphasizing the significance of strategic fiscal measures in fostering stability and sustainable growth.

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Similarly, the study conducted by Izzahdi and Suryani (2023) sheds light on the interplay between vaccination efforts, government policies, and capital market volatility in ASEAN countries. By employing econometric models, their research elucidates that mass vaccination efforts tend to mitigate stock market volatility, reflecting increased confidence among economic actors. Conversely, stringent government policies during the pandemic contribute to heightened uncertainty among investors, thereby exacerbating market volatility. Integrating findings from this research enriches our understanding of the multifaceted impacts of pandemic response measures on financial markets, reinforcing the importance of proactive vaccination strategies and calibrated policy interventions for fostering market stability amidst global crises.

Furthermore, Antovska-Mitev and Drangovska (2021) offer a comprehensive assessment of the pandemic's impact on people's lives in North Macedonia. Through a combination of official statistics and survey data, their study provides valuable insights into various aspects, including the population's familiarity with the virus, its health and economic implications, changes in daily habits, employment and income effects, as well as risk perception and concerns about the uncertain future. Integrating findings from this research enriches our understanding of the multifaceted impacts of the pandemic on individuals and communities, informing policy responses and interventions aimed at mitigating adverse effects and fostering resilience.

Moreover, Yotzov et al. (2020) provide valuable insights into the macroeconomic effects of pandemic-induced uncertainties, specifically focusing on Bulgaria and its trading partners. By developing scenarios for economic development based on varying assumptions regarding the severity of external shocks and the duration of social distancing measures, their study enhances our understanding of the unprecedented challenges posed by the pandemic and informs policymakers and stakeholders about potential economic trajectories in the face of ongoing uncertainty.

Additionally, Tsvetkov and Georgieva's (2021) study on anti-crisis macroeconomic policy in Bulgaria offers insights into the construction and implementation of fiscal and monetary measures within the context of a small open economy. Their analysis provides a framework for understanding the efficacy and effectiveness of counter-cyclical policies, emphasizing the importance of adaptive strategies in navigating volatile economic landscapes.

Lastly, Aliu, Terziu, and Brestovci's (2022) investigation into the impact of the pandemic on the labour market in Kosovo highlights the significant challenges faced by institutions in mitigating its effects. While governmental responses such as emergency and economic recovery packages have been implemented, the study notes the limited reach of support programs compared to the magnitude of needs. Integrating insights from this research enhances our understanding of the nuanced dynamics at play in the labour market amidst the pandemic, informing policy discussions and interventions aimed at bolstering resilience and supporting vulnerable sectors of the workforce.

Drawing lessons from previous economic crises has been a recurrent theme in the literature, as policymakers sought to apply insights from history to the unique challenges posed by the pandemic. Reinhart and Tashiro (2020) conducted a historical analysis of financial crises, highlighting the importance of decisive and timely policy responses in minimizing long-term

economic damage. This emphasis on swift action resonates with the findings of Romer and Romer (2020), who stressed the significance of early and aggressive policy measures in averting prolonged economic downturns. Moreover, social support programs have garnered attention in the literature, with studies like Cao et al. (2020) exploring the role of such programs in protecting vulnerable populations during the pandemic. The importance of social safety nets and targeted assistance has been underscored by the World Bank (World Bank, 2020), emphasizing the need for inclusive policies that address the socio-economic disparities exacerbated by the crisis.

While global literature provides a broad understanding of economic policies during the pandemic, regional variations have also been a subject of scholarly inquiry. A study by Mora et al. (2021) examined the economic responses of Latin American countries, highlighting the diverse policy approaches and their differential impact on economic outcomes. This regional lens is particularly relevant for our analysis of Bulgaria, situated within the unique socio-economic dynamics of the Balkans. In the European context, the European Commission has been actively involved in coordinating economic responses, emphasizing the importance of solidarity and a unified approach among the EU member states (European Commission, 2020). Studies like Breitenbach and Grobler (2020) have explored the challenges and opportunities presented by the EU's collective response, shedding light on the complexities of navigating a supranational economic framework during a crisis.

While existing literature provides valuable insights, certain research gaps and emerging debates warrant further exploration. The long-term consequences of economic policies implemented during the pandemic remain a subject of ongoing inquiry, with scholars like Furceri et al. (2021) emphasizing the need for sustained analysis to understand the lasting impact on economic structures and resilience. Additionally, debates around the effectiveness of specific measures, such as lockdowns and travel restrictions, have spurred scholarly discussions (Alfaro et al., 2020), prompting further investigation into their economic implications.

In summary, this brief literature review underscores the multifaceted nature of economic policies enacted during the COVID-19 pandemic. Insights from global, historical, regional, and emerging research contribute to a nuanced understanding of the challenges faced by governments and the diverse strategies employed to address them. Building on this foundation, the subsequent sections will delve into the specific economic policies implemented during the pandemic in Bulgaria, placing them within the broader context of the Balkans and the EU.

### **3. Pre-Pandemic Economic Situation in the Balkans**

Understanding the pre-pandemic economic conditions in Bulgaria and the Balkans is crucial for contextualizing the impact of the COVID-19 pandemic on the region. Prior to the outbreak, the Balkans exhibited a diverse economic landscape with varying levels of development, economic structures, and inflation. This section aims to provide an in-depth analysis of the economic situation in the Balkans, emphasizing key indicators such as GDP growth, unemployment, and inflation rates.

Before the pandemic, the Balkans displayed a mix of economic performances, reflecting the highly heterogeneous nature of the region. Countries such as Bulgaria, Romania, and Serbia experienced moderate GDP growth, driven by factors such as increased exports, foreign direct investment, and a growing services sector. In contrast, some Western Balkan nations, including Albania and North Macedonia, faced challenges related to lower GDP growth rates, structural vulnerabilities, and the lingering effects of past economic and political transitions (World Bank, 2019). For instance, Bulgaria, the focal points of this analysis, witnessed stable economic growth in the years leading up to the pandemic. According to World Bank data (World Bank, 2020), Bulgaria's GDP grew by 4.0% in 2019, supported by robust domestic demand and a vibrant export sector. However, challenges such as demographic issues, skill shortages, and concerns about the business environment remained on the agenda for policymakers.

Table 1 below presents a comprehensive overview of the GDP growth rates of all Balkan economies along with the World and the EU average. Overall, between 2005 and 2014, Bulgaria's performance was much better than the EU average but well below the World average. Somewhat similarly, between 2015 and 2019, Bulgaria's performance is slightly lower than the World average but well above the one of the EU.

**Table 1. GDP Growth in Bulgaria vs. Balkan Economies Before the Pandemic**

	Average (2005-2014)	2015	2016	2017	2018	2019	Average (2015-2019)
Albania	3.8	2.2	3.3	3.8	4.0	2.1	3.08
Bosnia and Herzegovina	2.5	4.3	3.2	3.2	3.8	2.9	3.48
Bulgaria	2.8	3.4	3.0	2.8	2.7	4.0	3.18
Croatia	0.4	2.5	3.6	3.4	2.8	3.4	3.14
Greece	-2.1	-0.2	-0.5	1.1	1.7	1.9	0.80
Kosovo	4.5	5.9	5.6	4.8	3.4	4.8	4.90
Montenegro	2.9	3.42	2.9	4.7	5.1	4.1	4.04
N. Macedonia	3.3	3.9	2.8	1.1	2.9	3.9	2.92
Romania	3.0	3.2	2.9	8.2	6.0	3.8	4.82
Serbia	2.3	1.8	3.3	2.1	4.5	4.3	3.20
Slovenia	1.3	2.2	3.2	4.8	4.5	3.5	3.64
Turkey	5.4	6.1	3.3	7.5	3.0	0.8	4.14
EU (GDP-weighted)	1.1	2.5	2.0	3.1	2.3	2.0	2.38
World (GDP-weighted)	3.9	3.4	3.2	3.8	3.6	2.8	3.36

Source: IMF, WEO

According to Table 1, overall, at the forefront of Balkan expansion were Kosovo, Turkey, and Romania, boasting average GDP growth rates exceeding 4%. Kosovo<sup>4</sup>, still in its nascent stages of economic development, demonstrated remarkable dynamism with a 4.90% average between 2015 and 2019, highlighting its potential for future progress. Turkey, buoyed by strong domestic consumption and a vibrant services sector, achieved a 4.14% average, solidifying its position as a regional economic powerhouse. Romania, propelled by foreign

<sup>4</sup> The fact that most Balkan economies are actually at early stages of capitalist development is an important feature of the whole region.

investment and export-oriented policies, recorded a 4.82% average, illustrating its successful integration into the global market. Bulgaria's GDP growth in the years leading up to the COVID-19 pandemic was generally positive, but it faced challenges compared to some of its Balkan neighbours. It outperformed countries like Greece and Croatia, but lagged behind Romania, Serbia, and Turkey. Notably, though, Bulgaria's growth was relatively stable during this period, without significant fluctuations, which can be seen as a favourable achievement for the country.

**Table 2. Inflation in Bulgaria vs. Balkan Economies**

Inflation	Average (2005-2014)	2015	2016	2017	2018	2019	Average (2015-2019)
Albania	2.5	1.9	1.3	2	2	1.4	1.72
Bosnia and Herzegovina	2.5	-1	-1.6	0.8	1.4	0.6	0.04
Bulgaria	4.2	-1.1	-1.3	1.2	2.6	2.5	0.78
Croatia	2.6	-0.3	-0.6	1.3	1.6	0.8	0.56
Greece	2.2	-1.1	0	1.1	0.8	0.5	0.26
Kosovo	2.5	-0.5	0.2	1.5	1.1	2.7	1.00
Montenegro	3.1	1.5	-0.3	2.4	2.6	0.4	1.32
N. Macedonia	2.5	-0.3	-0.2	1.4	1.5	0.8	0.64
Romania	5.4	-0.6	-1.6	1.3	4.6	3.8	1.50
Serbia	8.7	1.4	1.1	3.1	2	1.8	1.88
Slovenia	2.3	-0.5	-0.1	1.4	1.7	1.6	0.82
Turkey	8.3	7.7	7.8	11.1	16.3	15.2	11.62
EU	2.1	0.1	0.1	1.6	1.9	1.4	1.02

Source. IMF, WEO

Next, Table 2 presents an extended overview of the inflation performances (annual averages for each country) of various countries in the Balkan region during the years preceding the COVID-19 pandemic, with a specific focus on Bulgaria. The inflation rates from 2005 to 2014 serve as a baseline for comparison, while subsequent years up to 2019 are individually analyzed, and their averages are computed. Bulgaria, amidst its Balkan counterparts, displayed a relatively higher average inflation rate of 4.2% during the period of 2005-2014. Such a time-categorization encompasses distinct economic periods marked by significant events such as pre-accession to the EU, the 2007 global financial crisis, and the 2012 debt crisis in the euro area. However, the subsequent years witnessed a notable shift in its economic dynamics. From 2015 to 2019, Bulgaria experienced a significant transformation with consistently negative inflation rates, ranging from -1.1% to 2.6%, resulting in an average inflation rate of merely 0.78%. This deflationary trend raises questions about the underlying economic conditions in Bulgaria and the effectiveness of policy measures adopted during this period. Comparatively, other countries in the Balkan region exhibited diverse inflation performances. Notably, Turkey faced a pronounced inflation surge, reaching a staggering 16.3% in 2019, making it the highest among the listed nations. In contrast, countries like Bosnia and Greece encountered negative inflation rates in some years, contributing to their overall low average inflation during the same period. The Bulgarian case stands out within the Balkan context due to its shift from relatively high inflation pre-2015 to a persistent deflationary trend in the subsequent years. The years 2017 and 2018 were particularly pivotal for Bulgaria, as it not only managed to curb inflation but also achieved positive rates, signalling economic stability. Moreover, in comparison to the EU, Bulgaria's inflation

performance appears distinctive. While the EU experienced relatively low and stable inflation rates, Bulgaria's economy, although being the one with the lowest GDP per capita in the EU displayed more volatility, especially in the years immediately following the global financial crisis. Moreover, the strong dependence on euro area economic processes, influenced by Bulgaria's Currency Board Arrangements, is acknowledged as a crucial factor shaping macroeconomic policy effectiveness. The limitations of these arrangements are duly noted in assessing Bulgaria's inflation dynamics and broader economic performance. Additionally, the discussion incorporates the implications of Bulgaria's catching-up economic development trajectory, characterized by the lowest GDP per capita in the EU, highlighting its relevance in understanding inflation trends and policy responses. By contextualizing Bulgaria's inflation performance within these specificities, our analysis offers a nuanced perspective on the multifaceted dynamics shaping the country's economic trajectory.

**Table 3. Unemployment Rate in Bulgaria vs. Balkan Economies**

Unemployment	2015	2016	2017	2018	2019	Average (2015-2019)
Albania	17.2	15.4	13.6	12.3	11.5	14.00
Bosnia and Herzegovina	27.7	25.4	20.5	18.4	15.7	21.54
Bulgaria	9.1	7.6	6.2	5.2	4.2	6.46
Croatia	16.2	13.1	11.2	8.4	6.6	11.10
Greece	24.9	23.5	21.5	19.3	17.3	21.30
Kosovo	32.9	27.5	30.5	26.2	25.7	28.56
Montenegro	17.6	17.7	16.1	15.2	15.7	16.46
N. Macedonia	26.4	24.3	22.8	21.2	17.4	22.42
Romania	6.8	5.9	4.9	4.2	3.9	5.14
Serbia	17.7	15.3	13.5	12.7	10.4	13.92
Slovenia	9.0	8.0	6.6	5.1	4.5	6.64
Turkey	10.2	10.8	10.8	10.9	13.7	11.28
EU	10.2	9.3	8.3	7.4	6.8	8.40

Source: ILO

Finally, Table 3 presents a comprehensive overview of the unemployment rate performances in various Balkan countries in the years leading up to the COVID-19 pandemic. The unemployment rates are a crucial economic indicator, reflecting the labour market dynamics and the overall health of the economy. Overall, pre-pandemic unemployment rates varied across the Balkans, reflecting both economic disparities and structural challenges. In Bulgaria, the unemployment rate was relatively low compared to other Balkan countries, hovering around 4.2% in 2019. The country had made strides in improving its labour market, but concerns persisted about the quality of jobs, youth unemployment, and the emigration of skilled workers seeking opportunities abroad. Contrastingly, some Western Balkan nations faced higher unemployment rates. For example, Albania and North Macedonia reported rates of 11.5% and 17.8%, respectively, in 2019. These countries grappled with challenges related to labour market informality, skills mismatches, and the need for structural reforms to foster job creation.

According to Table 3, notably, Bulgaria stands out as a relatively stable and low-unemployment economy compared to its regional counterparts. Over the observed period, Bulgaria experienced a consistent decline in unemployment, with rates decreasing from 9.1%



in 2015 to an impressive 4.2% in 2019. This substantial reduction, showcasing a decline of nearly five percentage points, underscores the potential effectiveness of Bulgaria's economic policies and labour market strategies during these years. Bulgaria's success in maintaining a low unemployment rate is particularly noteworthy when compared to the EU average and other Balkan nations. The EU average unemployment rate ranged from 10.2% in 2015 to 6.8% in 2019, with Bulgaria consistently performing below this average. This highlights Bulgaria's resilience and capacity to create a favourable environment for employment growth. In contrast, some neighbouring countries faced more significant challenges. For instance, Bosnia and Kosovo witnessed relatively high unemployment rates, with Bosnia starting at 27.7% in 2015 and Kosovo at 32.9%. Although both countries experienced declines over the years, their rates remained notably higher than Bulgaria's. The substantial variation in unemployment rates across the Balkans underscores the importance of examining the unique economic circumstances and policy decisions that influenced each nation's labour market dynamics. It is also worth noting that while Bulgaria excelled in maintaining low unemployment, other countries such as Romania and Slovenia similarly demonstrated commendable performances. Romania, for instance, consistently maintained a low unemployment rate, reaching 3.9% in 2019. Slovenia, although starting with a higher rate, experienced a steady decline, ending at 4.5% in 2019. These cases serve as potential benchmarks for understanding successful employment policies in the Balkan region. In conclusion, the comparative analysis of unemployment rates in the Balkans from 2015 to 2019 highlights Bulgaria's remarkable performance in sustaining low unemployment levels. This accomplishment positions Bulgaria as a positive example within the region and emphasizes the importance of exploring the specific economic policies and reforms that contributed to its success.

To enhance our analysis, we can explore the relationship between inflation and unemployment, commonly depicted by the Phillips curve, within the context of the Balkan economies. The Phillips curve illustrates the inverse relationship between inflation and unemployment rates in the short run, suggesting that as unemployment decreases, inflation tends to rise, and vice versa. By examining the inflation and unemployment dynamics collectively, we can gain insights into the broader macroeconomic trends and policy implications within the region. For instance, while Bulgaria exhibited a deflationary trend alongside declining unemployment rates, other Balkan countries faced varying challenges, including higher inflation and unemployment levels. This comparative analysis enables us to assess the efficacy of economic policies in addressing both inflationary pressures and unemployment disparities, offering valuable lessons for policymakers and stakeholders across the Balkans. Additionally, considering the Phillips curve framework enriches our understanding of the complex interplay between inflation and unemployment dynamics, shedding light on the trade-offs and policy dilemmas faced by economies in the region. Integrating discussions on inflation and unemployment within a unified framework strengthens the analytical rigour of our analysis and facilitates a more comprehensive understanding of the macroeconomic landscape in the Balkans.

Overall, the pre-pandemic economic landscape in the Balkans also highlighted regional disparities and efforts toward European integration. Countries in the Western Balkans, aspiring to join the EU, were engaged in comprehensive reform processes aimed at aligning with the EU standards. However, challenges persisted, including the need for institutional

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strengthening, the rule of law, and the resolution of geopolitical issues affecting the region. Bulgaria, as an EU member state since 2007, was part of the broader European economic framework. The country actively participated in EU programs, benefited from structural funds (though not as much as countries that entered the EU before Bulgaria), and even partially, adhered to EU economic governance. However, Bulgaria also faced challenges associated with income inequality, corruption, and the need for further economic diversification of its production and trade portfolio.

Understanding this pre-existing context is essential for evaluating the impact of the COVID-19 pandemic on the region's economies, including Bulgaria, and for identifying the specific challenges and opportunities that emerged during the crisis. The subsequent sections will delve into the economic policies implemented by Bulgaria during the pandemic, examining their effectiveness and comparing them with strategies adopted by other Balkan countries and EU member states.

#### 4. Overview of Economic Policies during the Pandemic

The outbreak of the COVID-19 pandemic prompted governments worldwide to implement a wide array of economic policies aimed at mitigating the immediate impact of the crisis, sustaining economic activities, and safeguarding the well-being of their populations. Elgin et al. (2020) provide a comprehensive dataset that documents the magnitude of these policy responses across the whole world covering 168 countries, including all the Balkan countries. Bulgaria responded to the unprecedented challenges posed by the pandemic with a mix of fiscal, monetary, and social policies. This section provides an overview of the economic policies adopted by Bulgaria during the pandemic, with a focus on their design, implementation, and impact.

*Table 4. Selected Public Health Statistics as of May 2021*

Selected Public Health Statistics in May 2021	Bulgaria	Balkans	EU	World
Average Government Stringency (March 2020-May 2021)	51.74	64.12±5.40 (65.74)	62.25±6.92 (62.62)	65.50±13.25 (66.67)
Covid-19 Case-Mortality Rate (% in May 2021)	4.22	2.49±1.25 (2.22)	2.09±0.86 (1.92)	2.19±2.02 (1.75)
Covid-19 Infection Rate (% in May 2021)	6.28	6.68±2.36 (5.90)	13.25±32.01 (7.23)	4.13±14.20 (1.49)

*Source: WHO Covid-19 Dashboard*

Before going to the specifics of the policies, first we discuss the public health-related developments. To this end, Table 4 provides information on three COVID-19-related metrics. The data is presented as of May 2021 (because this will be the last date for which policy data is collected<sup>5</sup>), focusing on the government stringency measures and case-mortality rates.

<sup>5</sup> This is a dataset originated in Elgin et al. (2020) and also used by Elgin (2024). The author(s) have collected the data from March 2020 to May 2021 at 16 different time points.

And the infection rates. Standard deviations, medians (in parentheses), and averages are included to provide additional insights. Since there is a lot of uncertainty about testing (particularly in the Balkans), we should interpret the data on infection rates with some grain of salt.

Out of the three data series average government stringency, obtained from Hale et al. (2021) measures the average stringency of government-imposed public health measures to control the spread of COVID-19. This index is reported daily, but here we report average scores between March 1, 2020, and May 31, 2021. Accordingly, Bulgaria had an average stringency of 51.74, while the Balkans had a mean of 64.12, with a standard deviation of 5.40 and a median of 65.74. The EU and the world had mean stringency values of 62.25 and 65.50, respectively, with corresponding standard deviations and medians provided. This statistic indicates that the public health restrictions were less stringent and restrictive than the ones in the EU, Balkans, and the World, overall.

Second, the case-mortality rate measures the percentage of confirmed COVID-19 cases that resulted in death by the end of May 2021. Bulgaria had a case-mortality rate of 4.22%, while the Balkans had a mean rate of 2.49%, with a standard deviation of 1.25 and a median of 2.22%. The EU and the world had mean case-mortality rates of 2.09% and 2.19%, respectively, whereas for central and east European economies and developing countries as a whole, the numbers were 2.3% and 2.5%, respectively. It is evident that Bulgaria's COVID-19 case-mortality rate was higher than the mean and median rates in the Balkans, the EU, and the world. In fact, Bulgaria had the second-highest case-mortality rate in the Balkans, right below Bosnia and Herzegovina<sup>6</sup>.

Finally, the infection rate in Bulgaria is around the average of the Balkan, well above the world but a lot below the EU.

Fiscal policies played a pivotal role in Bulgaria's response to the economic challenges brought about by the pandemic. The government swiftly introduced stimulus packages to provide financial relief to businesses, workers, and vulnerable populations. These measures were designed to address the immediate economic shocks, support employment, and bolster the resilience of key sectors. One notable fiscal intervention was the establishment of the Economic Stabilization and Recovery Fund. Launched in May 2020, this fund aimed to allocate resources for health-related measures, social support, and economic recovery (Council of Ministers of the Republic of Bulgaria, 2020). The fund underlined the government's commitment to a multifaceted approach, recognizing the interconnectedness of health and economic priorities. Furthermore, Bulgaria implemented tax relief measures to ease the financial burden on businesses. This included a temporary reduction in the value-added tax (VAT) for certain goods and services, providing immediate relief for consumers and supporting sectors heavily impacted by lockdowns (Ministry of Finance of the Republic of Bulgaria, 2020).

Some of the revenue and expenditure initiatives taken in Bulgaria were as follows:

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<sup>6</sup> One should note that Bosnia and Herzegovina also operated under currency board arrangements, similar to Bulgaria.

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- tax relief for households having children (about EUR 73 million)
- a reduced VAT rate of 8 (which is still valid) of 9 per cent for restaurant services, books, baby food, wine, beer, tour operators and tourist trips, gyms and sports facilities, and food delivery until the end of 2021 (about EUR 175 million)
- VAT and customs duties relief for importing essential medical supplies (about EUR 1.5 million).

On the other hand, some examples of expenditures to support households are as follows:

- bonuses to pensions and an increase in the minimum pension (about EUR 890 million)
- parental support – (about 92 EUR million)
- active labour market policies (about EUR 7.2 million)
- procurement of vaccines and medicines (about EUR 102 million)
- tourism vouchers of about EUR 210 for frontline workers (about EUR 5.1 million)
- increased unemployment benefits and other social support (about EUR 175.8 million)
- about EUR 15.3 million for remote education
- an additional about EUR 12.8 million under the “Keep Me” program
- an extra about EUR 25.6 million for the “Employment for You” program
- about EUR 11.8 million under the “Parents in Employment” program and about EUR 11.2 million to support each workplace in the hotel and restaurant sector with about EUR 148.

Furthermore, some spending measures to support businesses include the following schemes:

- 60/40 wage subsidy scheme (about EUR 580.2 million)
- assistance for artists affected by the lockdown (about EUR 2.6 million)
- tourism support (about EUR 31.7 million)
- support for agricultural producers (about EUR 43.4 million)

All these expenditures were also supplemented with additional spending in the healthcare sector and public administration, including, the provision of PPE (personal protective equipment) and other equipment to state administration (about EUR 17.9 million), support for personnel on the frontline of the fight against COVID-19 (about EUR 98.07 million), additional funding for medical activities (about EUR 382.1 million), provision of PPA and other equipment to medical establishments (about EUR 66.4 million), subsidies and capital transfers to medical establishments (about EUR 35.8 million), COVID-related expenditures in education (about EUR 19.4 million); and finally, additional remuneration in healthcare (about EUR 146.6 million). Furthermore, national co-financing of EU-funded measures totalled about EUR 85.8 million.

On the side of the monetary and the macro-financial policy, both the Bulgarian government and the Bulgaria National Bank have implemented several monetary and macro-financial measures. These foremost include:

- capitalization of the 2019 profit in the banking system (approximately 1.4 per cent of 2019 GDP) and capitalization of the 2020 profit (about 0.68 per cent of 2020 GDP)
- boosting the liquidity of the banking system by about EUR 3.6 billion (6 per cent of 2019 GDP) through a reduction in foreign exposures of commercial banks
- cancellation of the planned increase in the countercyclical capital buffer for 2020 and 2021, with an effect amounting to about EUR 0.36 billion or about 0.6 per cent of 2019 GDP
- agreement on a moratorium on bank loan payments for up to 6 months, expiring no later than December 2021, with a deadline for requests set at the end of March 2021
- establishment of a EUR 2 billion swap line with the ECB until the end of 2020 or as long as necessary, with a maximum maturity of 3 months for each drawing.

Additionally, the government has proposed liquidity support measures, utilizing national and EU resources. The measures include:

- a capital increase of the state-owned Bulgarian Development Bank (BDB) by about EUR 358 million (0.6 per cent of 2019 GDP), with about EUR 500 million earmarked for issuing portfolio guarantees to commercial banks for the extension of corporate loans, and the remaining about EUR 102.1 million for providing interest-free loans to employees on unpaid leave, self-employed individuals, and seasonal workers (up to about EUR 3525, with an extended deadline for applications up to the end of June 2021). The latter has recently been redesigned to enhance access to the measure.
- allocation of about EUR 523 million to the state-owned company “The Fund of Funds” to provide subsidies to micro-enterprises, self-employed individuals, entrepreneurs from vulnerable groups, and eligible SMEs and companies.
- allocation of about EUR 408.6 million to a joint-initiative organization between the European Investment Fund and the European Commission to provide guarantee/credit to SMEs.
- allocation of about EUR 213.5 million to the Urban Development Funds, managed by the Fund of Funds, for long-term investment and working capital, targeting municipalities, PPPs (public-private partnerships), and businesses affected by the crisis, including those in tourism and transport.

Aggregating all these fiscal and macro-financial measures, using data from Elgin et al. (2020) Table 5 summarizes the magnitudes of these two pillars of policies. For the EU, the World, and the Balkans, both the simple arithmetic average as well as the GDP-weighted average are reported along with the standard deviation and the median of the data series. This table primarily provides a comparative analysis of economic stimulus policies implemented in Bulgaria and other regions. The data is presented for two time points: March 2020, which

Elgin, C., Elveren, A. Y. (2025). *An Evaluation and Comparative Analysis of Fiscal and Macro-financial Policies during the COVID-19 Pandemic: The Case of Bulgaria in the Balkan Context*.

represents the very beginning of the pandemic and May 2021, which is the last time Elgin et al. (2020) collected the cross-country data. The statistics are expressed as percentages of GDP.

**Table 5. Fiscal and Macro-Financial Stimulus Packages in the Pandemic**

Statistics Mean±Std. Dev (Median) (GDP- weighted)				
	March 2020			
	Bulgaria	EU	World	Balkans
Fiscal Stimulus (% GDP)	2.00	5.59±5.02 (4.70) (6.00)	2.10±3.61 (0.50) (3.80)	2.06±2.09 (1.65) (2.35)
Macro-Financial Stimulus (% GDP)	8.60	6.34±3.59 (7.31) (7.54)	1.88±4.03 (0.00) (4.24)	2.04±3.47 (0.00) (1.06)
	May 2021			
	Bulgaria	EU	World	Balkans
Fiscal Stimulus (% GDP)	10.52	17.32±4.55 (16.76) (17.69)	7.58±7.98 (5.00) (13.83)	10.69±6.67 (10.41) (6.94)
Macro-Financial Stimulus (% GDP)	13.04	21.66±12.10 (19.30) (32.98)	7.37±10.05 (3.35) (13.21)	7.10±5.98 (6.96) (8.96)

Source: Authors' calculations using Elgin et al. (2020)

According to Table 5, in March 2020, Bulgaria had a fiscal stimulus of 2.00% of GDP, while the EU had a higher mean stimulus of 5.59%, (or 6% when calculated as a GDP-weighted<sup>7</sup> average) with a median of 4.70%. The World and the Balkans had mean stimuli of 2.10% (3.80% weighted average) and 2.06%, (2.35% when GDP-weighted) respectively. By May 2021, Bulgaria's fiscal stimulus had increased to 10.52% of GDP, which is surpassed by the mean EU stimulus of 17.32% (17.69%). The Balkans had a mean stimulus of 10.69%, (6.94% when weighted) while the World had a mean of 7.58%. (8.96%) The reason why the GDP-weighted average of Balkan economies is substantially lower than the unweighted average<sup>8</sup> is the relatively small size of the fiscal stimulus in Turkey, the largest Balkan economy. On the side of the macro-financial policies, in March 2020, Bulgaria's macro-financial stimulus was 8.60% of GDP, exceeding the mean EU stimulus (6.34% unweighted or 7.54% if GDP-weighted). The Balkans and the World had mean stimuli of 1.88% (4.24%) and 2.04% (1.04%) respectively. By May 2021, Bulgaria's macro-financial stimulus<sup>9</sup> increased to

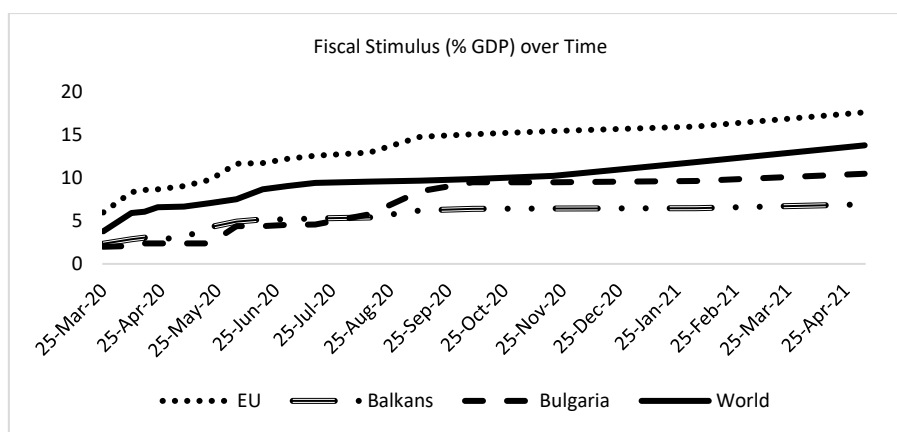
<sup>7</sup> We calculate the GDP weighted average by simply calculating a weighted average for the region, where the weight of each country is its GDP.

<sup>8</sup> Employing an unweighted average may overlook the varying economic contexts and disparities among EU and Balkan countries. A more methodologically sound approach could involve weighting the averages based on GDP (as we do here) to better reflect the economic significance of each country's stimulus measures.

<sup>9</sup> Under Currency Board Arrangements in Bulgaria, limitations in fiscal and monetary policy autonomy can constrain the scope and effectiveness of stimulus measures. Despite increases in fiscal and macro-financial stimuli, Bulgaria may face constraints in implementing expansive policies due to the fixed

13.04% of GDP, again surpassed by the mean EU stimulus (21.66% or 32.98%). The Balkans had a mean stimulus of 7.10%, (8.96%) while the world had a mean of 7.37% (13.21%). In summary, Bulgaria increased both its fiscal and macro-financial stimuli from March 2020 to May 2021. Overall, in terms of the size of both fiscal and macro-financial measures, Bulgaria lagged behind the EU average.

**Figure 1. Evolution of the Fiscal Stimulus Measure**



For fiscal policy, the overall size of the policy was overall more or less in line with the Balkans, but the size of the macro-financial response in Bulgaria was significantly larger than the one in the Balkans.

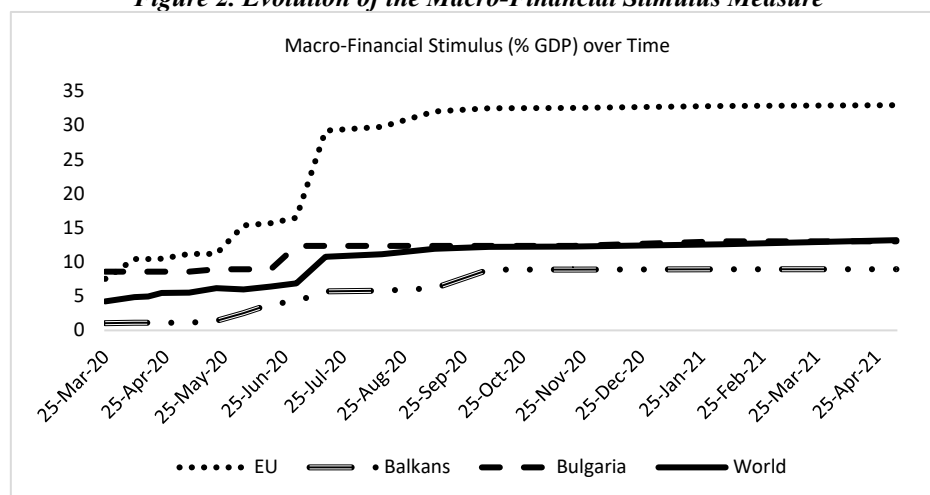
Adding up a time-series perspective and utilizing the time-series nature of the data provided by Elgin et al. (2020), in Figures 1 and 2 we plot the evolutions of the size of the fiscal and macro-financial stimulus packages in Bulgaria vs. EU, Balkans, and the World (all GDP-weighted averages). These two pictures are overall in line with what we observe in Table 4.

Finally, as an additional analysis, we also present the results of several regressions of the fiscal and macro-financial policy measures on several variables of interest. To this end, Tables 6 and 7 illustrate the regressions of fiscal and macro-financial measures in Balkan economies. Next, Table 8 repeats the analysis with the sum of the fiscal and macro-financial stimulus package as the dependent variable on the left-hand side of the regression equation.

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exchange rate regime, which necessitates a focus on maintaining currency stability. These limitations could influence the size and scope of Bulgaria's stimulus measures compared to other countries.

**Figure 2. Evolution of the Macro-Financial Stimulus Measure**



**Table 6. Regressions of the Fiscal Stimulus Package**

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	IV
2019 Inflation	-0.307*** (0.046)	-0.376*** (0.051)	-0.364*** (0.046)	-0.386*** (0.03)	-0.387*** (0.031)	-0.361*** (0.03)
Infection Rate		0.953*** (0.277)	0.913*** (0.318)	0.864*** (0.113)	1.353*** (0.238)	1.384*** (0.179)
Stringency Index			-0.083*** (0.022)	-0.082*** (0.015)	-0.040** (0.02)	-0.056*** (0.018)
GDP per capita				0.584*** (0.039)	0.579*** (0.036)	0.671*** (0.047)
Constant	7.643*** (0.563)	7.927*** (0.632)	13.225*** (1.688)	5.578*** (1.018)	-0.259 (1.946)	-0.588 (2.035)
Version Dummies	NO	NO	NO	NO	YES	YES
Observations	192	192	192	192	192	192
R-squared	0.049	0.185	0.255	0.782	0.820	
J-Test (p-value)						0.09
F-test (1 <sup>st</sup> stage)						0.00
Underid. Test..						0.00
Weak-id. Test						0.00

Standard errors are in parentheses \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Both Table 6 and Table 7, present six regressions in total. Except for the last one (which is an instrumental variable regression), all others are simply OLS regressions. In each additional OLS regression, in a stepwise manner, we add an additional explanatory variable, whereas in the last OLS regression, we also add policy version dummies. Notice that the stimulus package size data (fiscal, macro-financial or the sum) is available in a panel data form (12 Balkan countries and 16 versions leading to 192 observations). Among the right-hand side variables, we also have the infection rate and the government stringency index in the panel data form. In addition to these, following Elgin (2024) who has conducted a similar analysis



using the data for the whole world, we also use the 2019 inflation rate as well as the 2019 GDP per capita to control for the pre-pandemic inflation and income per capita in the Balkan economies. We start the regression with inflation as the only explanatory variable and then gradually add variables to the right-hand side. The first four regressions in Tables 7 and 8 do not include version dummies on the right-hand side but regressions five and six also include these dummies to control for the effect of time through the course of the pandemic. Finally, in the last regression, we also consider the potential exogeneity of the inflation and GDP per capita and instrument them on latitude, ethnic fractionalization (obtained from the International Country Risk Guide of the PRS group), and central bank independence (obtained from Elgin et al. 2021) to run an instrumental variable regression. In the case of IV estimations, we also present findings concerning the under-identification test, assessed through the Kleibergen-Paap rk LM statistic, the weak identification test measured by the Cragg-Donald Wald F statistic, over-identification tests utilizing the Hansen J statistic, and the F-test outcomes of the first-stage regressions. The outcomes of all these tests lend support to the validity and appropriateness of the instruments employed in our analysis.

**Table 7. Regressions of the Macro-Financial Stimulus Package**

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	IV
2019 Inflation	-0.110*	-0.169***	-0.156***	-0.171***	-0.177***	-0.171***
	(0.068)	(0.061)	(0.059)	(0.052)	(0.038)	(0.036)
Infection Rate		0.857***	0.812***	0.778***	0.582	0.448
		(0.24)	(0.288)	(0.171)	(0.386)	(0.331)
Stringency Index			-0.094***	-0.093***	-0.067**	-0.074**
			(0.018)	(0.014)	(0.031)	(0.034)
GDP per capita				0.410***	0.413***	0.556***
				(0.038)	(0.032)	(0.044)
Constant	5.08***	5.374***	11.391***	6.023***	3.473	1.842
	(0.491)	(0.552)	(1.374)	(1.305)	(3.094)	(3.284)
Version Dummies	NO	NO	NO	NO	YES	YES
Observations	192	192	192	192	192	192
R-squared	0.009	0.127	0.248	0.592	0.650	
J-Test (p-value)						0.12
F-test (1 <sup>st</sup> stage)						0.00
Under-id. Test..						0.00
Weak-id. Test						0.00

Standard errors are in parentheses \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

The results presented in all tables are highly similar. Specifically, we observe that Balkan economies, which had a higher pre-pandemic inflation rate were less expansionary in fiscal and macro-financial policies, as well as overall. This indicates that high pre-pandemic inflation prevented the ability of Balkan governments to give a stronger countercyclical policy response. Next, the estimated coefficient of GDP per capita is significantly positive in all regressions, i.e. richer countries were able to be more expansionary during the pandemic. According to Elgin (2024), both results also hold for the whole world. Third, the infection rate's estimated coefficient is also significantly positive in most regressions, except in the last two regressions of macro-financial policy. This indicates that a higher reported COVID-19 infection rate likely prompted Balkan governments to be more expansionary. Finally, the

coefficient of the stringency index is consistently and significantly negative in all regressions. This suggests that the Balkan government that took more stringent public health measures have been less expansionary in policy packages.

**Table 8. Regressions of the Overall Stimulus Package**

	(1)	(2)	(3)
	OLS	OLS	IV
2019 Inflation	-0.557*** (0.063)	-0.564*** (0.046)	-0.565*** (0.042)
Infection Rate	1.642*** (0.258)	1.935*** (0.582)	1.928*** (0.534)
Stringency Index	-0.175*** (0.023)	-0.107*** (0.039)	-0.107*** (0.036)
GDP per capita	0.994*** (0.066)	0.992*** (0.057)	0.998*** (0.082)
Constant	11.601*** (1.876)	3.215 (3.869)	3.132 (3.726)
Observations	143	143	143
R-squared	0.783	0.824	
J-Test (p-value)			0.19
F-test (1 <sup>st</sup> stage)			0.00
Under-id. Test			0.00
Weak-id. Test			0.00

Standard errors are in parentheses \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

The findings from our regression analysis of Balkan governments' responses to the COVID-19 pandemic carry broader implications for policymakers and researchers alike. The observed negative relationship between pre-pandemic inflation and the expansiveness of fiscal and macro-financial policies underscores the importance of maintaining stable economic conditions to facilitate effective crisis response. Additionally, the positive association between GDP per capita and stimulus measures highlights the capacity of wealthier nations to implement more robust economic interventions during crises. The impact of infection rates on policy expansion suggests that public health considerations play a crucial role in shaping economic responses. Finally, the negative correlation between stringent public health measures and stimulus packages raises questions about the trade-offs between health and economic policies. These insights can inform future policy decisions and contribute to a more nuanced understanding of the intricate interplay between economic and public health factors during global crises.

## 5. Effects of Economic Policies during and after the Pandemic

Evaluating the effectiveness of economic policies during the pandemic requires an examination of key economic indicators and outcomes. While the full impact of these policies is an ongoing area of research, certain trends and observations can be highlighted. To this end, Tables 9, 10, and 11, respectively, present the evolutions of the (real) GDP growth, unemployment rate, and inflation rate in the Balkan economies, and the EU. The three tables

presented here offer a short overview of the economic impact of the COVID-19 pandemic across several countries in the Balkan region.

First, Table 9 illustrates the GDP growth rates from 2020 to 2022, showcasing the economic resilience and recovery trends. Bulgaria, amidst the challenging circumstances, experienced a contraction of 4.0% in 2020, followed by a notable rebound with a growth rate of 7.6% in 2021 and a more moderate yet positive growth of 3.4% in 2022. GDP contraction, a common challenge during the peak of the pandemic in 2020, was moderated in Bulgaria due to the timely implementation of fiscal and monetary measures. Comparatively, Bulgaria's trajectory aligns with regional trends, with neighbouring countries such as Romania, Serbia, and Greece also demonstrating varying degrees of economic recovery during the same period. While it's true that positive growth rates post-COVID-19 may seem to offset negative ones, the exclusive nature of COVID-19 lies in the unprecedented volatility and disruption it brought to global economies. Despite the apparent recovery in growth rates, the pandemic's impact on sectors, supply chains, and consumer behaviour remains distinct, with lingering uncertainties and structural shifts influencing the trajectory of economic growth in the long term.

**Table 9. GDP Growth Through the Pandemic**

GDP Growth (%)	2020	2021	2022
Albania	-3.3	8.9	4.8
Bosnia and Herzegovina	-3	7.4	4.1
Bulgaria	-4.0	7.6	3.4
Croatia	-8.5	13.1	6.2
Greece	-9	8.4	5.9
Kosovo	-5.3	10.7	3.5
Montenegro	-15.3	13	6.1
N. Macedonia	-4.7	3.9	2.1
Romania	-3.7	5.9	4.7
Serbia	-0.9	7.5	2.3
Slovenia	-4.2	8.2	2.5
Turkey	1.9	11.4	5.5
EU	-5.6	5.9	3.6

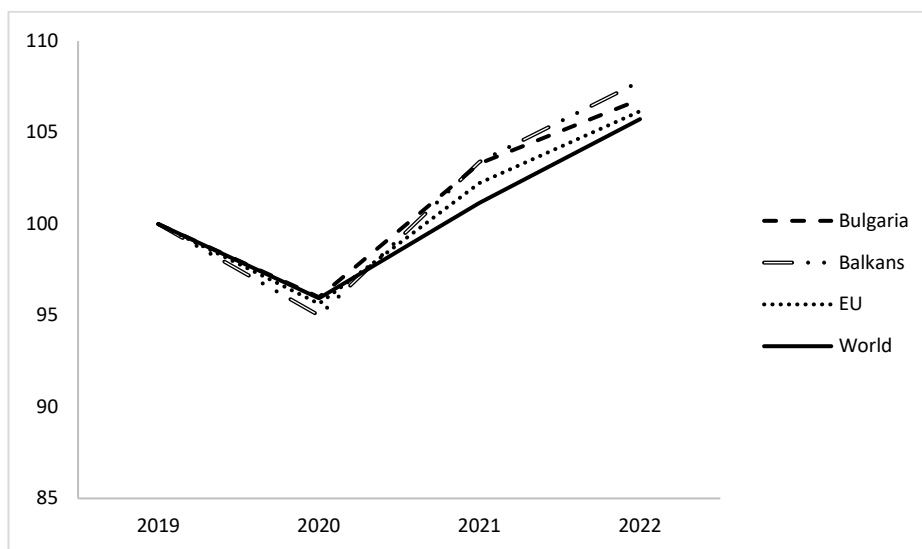
Source: IMF, WEO

The performance of Bulgaria vs. the regions in question is also visible in Figure 3, where we depict the evolution of the GDP compared to 2019, which is indexed to 100. The Figure illustrates that Bulgaria, overall, did better than the World and the EU. The Bulgarian trajectory is a little below the Balkan (GDP-weighted) average, due to the somewhat extraordinary performance of Turkey, which also came with a large cost of epically high inflation rates in Turkey.

Moving to Table 10, which examines unemployment rates, Bulgaria emerges as a standout performer. In 2020, Bulgaria reported an unemployment rate of 5.1%, which remained relatively stable at 5.3% in 2021 and decreased further to 4.4% in 2022. This signifies Bulgaria's success (somewhat similar to Slovenia) in managing labour market challenges during the pandemic, especially when compared to regional counterparts like Greece, Kosovo and even to some extent Romania, where higher unemployment rates persisted into 2022.

The data suggests that Bulgaria’s economic policies may have been effective in preserving job stability and fostering a resilient labour market. However, one should also yield that Bulgaria is still facing a demographic collapse in terms of a highly negative population growth rate, which was further exacerbated by a high case-mortality rate in the country.

**Figure 3. GDP Through the Pandemic (2019=100)**



**Table 10. Unemployment Through the Pandemic**

Unemployment	2020	2021	2022
Albania	13.1	12.7	11.8
Bosnia and Herzegovina	15.3	14.9	14.1
Bulgaria	5.1	5.3	4.4
Croatia	7.5	7.6	6.7
Greece	16.3	14.7	12.2
Kosovo	25.9	20.7	12.6
Montenegro	17.9	16.9	15.4
N. Macedonia	16.6	15.8	15.1
Romania	5.0	5.6	5.4
Serbia	9.0	10.1	9.5
Slovenia	5.0	4.7	4.2
Turkey	13.1	12.0	10.0
EU	7.2	7.0	6.7

Source: ILO

**Table 11. Inflation Rate Through the Pandemic**

Inflation	2020	2021	2022
Albania	1.6	2	6.7
Bosnia and Herzegovina	-1	2	14
Bulgaria	1.2	2.8	13
Croatia	0	2.7	10.7
Greece	-1.3	0.6	9.3
Kosovo	0.2	3.3	11.7
Montenegro	-0.2	2.4	13
N. Macedonia	1.2	3.2	14.2
Romania	2.6	5	13.8
Serbia	1.6	4.1	12
Slovenia	-0.1	1.9	8.8
Turkey	12.3	19.6	72.3
EU	0.7	2.9	9.3

Source: IMF, WEO

Next, Table 11 presents the inflation rates across the same period. Bulgaria witnessed a steady increase in inflation from 1.2% in 2020 to 2.8% in 2021 and a more significant rise to 13% in 2022. While this uptick in inflation may raise concerns, it is crucial to note that Bulgaria's inflation rates are comparable to those of other Balkan countries, when Turkey is also included. When Turkey is not included as an outlier, Bulgaria's inflation rates rise above the Balkan average, though. Moreover, In the broader European context, Bulgaria's inflation rates are moderate, aligning with the EU average, which stood at 9.3% in 2022. In conclusion, the analysis reveals Bulgaria's commendable economic recovery, as reflected in its GDP growth, stable unemployment rates, and inflation trends. Bulgaria's performance, when set against its Balkan counterparts, showcases a robust and resilient economy that has navigated the challenges posed by the pandemic. While there are areas for improvement, such as managing inflation, Bulgaria's relative stability positions it as a notable economic player within the Balkan region, contributing to the broader European narrative of post-pandemic recovery.

**Table 12. Average GDP Growth and Inflation during the Pandemic**

Mean±Std. Dev (Median) (GDP-weighted)	Bulgaria	Balkans	EU	World
GDP Growth in 2020 (%)	-4.00	-5.00±(4.36) (-4.10) (-0.64)	-4.36±3.62 (-4.00) (-5.60)	-4.06±6.79 (-3.40) (-2.80)
GDP Growth in 2021 (%)	7.60	8.83±2.77 (8.30) (10.01)	6.90±2.77 (6.40) (5.90)	5.43±5.71 (5.30) (6.30)
GDP Growth in 2022 (%)	3.40	4.26±1.50 (4.40) (5.15)	3.84±2.16 (3.40) (3.60)	4.53±6.36 (4.05) (3.50)
Average Inflation in 2020 (%)	1.20	1.50±3.59 (0.70)	0.70±1.27 (0.40)	8.76±45.60 (2.40)
Average Inflation in 2021 (%)	2.80	4.13±5.00 (2.75)	2.87±1.24 (2.80)	9.35±31.56 (3.70)
Average Inflation in 2022 (%)	13.00	16.63±17.69 (12.50)	10.80±(3.77) (8.80)	13.84±23.62 (8.30)

Source: Authors' calculations using data from IMF, WEO

Finally, Table 12 summarizes the two key economic indicators, i.e., GDP growth and inflation. The data is provided for the years 2020, 2021, and 2022, with mean values, standard deviations, and GDP-weighted medians. Accordingly, Bulgaria experienced a GDP contraction of -4.00% in 2020, which was better than the EU (-4.36% and -5.60%) When compared to the Balkans and the World, the performance gets somewhat mixed, because GDP-weighted and unweighted averages indicate different performances. Particularly, it is a slightly better performance when compared against the unweighted average of the Balkans but substantially worse than the GDP-weighted average. The reason for this is the positive GDP growth of Turkey in 2020 and years after, which is the largest Balkan economy due to its size. When compared against the World, again Bulgaria has done somewhat worse, but again more positive performance of India and China, again further increasing the GDP weighted average of the GDP growth of the World as compared to Bulgaria.

Inflation represents the percentage change in the general price level of goods and services. Bulgaria had an average inflation rate of 1.20% in 2020, lower than the mean for the Balkans (1.50%), the EU (0.70%), and the World (8.76%). In 2021, Bulgaria's inflation increased to 2.80%, still lower than the mean for the Balkans (4.13%), the EU (2.87%), and the world (9.35%). In 2022, Bulgaria's average inflation surged to 13.00%, still well below the Balkans and somewhat below the world exceeded the rate in the EU (10.80%).

The findings from these tables underscore the intricate relationship between economic policies, health outcomes, and macroeconomic indicators. Bulgaria's dynamic fiscal and macro-financial responses reflect a commitment to economic resilience, yet the impact on public health remains a complex interplay. Overall, the economic policies implemented by Bulgaria during the COVID-19 pandemic reflect a multi-dimensional approach encompassing fiscal, monetary, and social measures. Comparative analysis with other Balkan countries and EU member states provides valuable insights into the diverse policy landscape and potential areas for collaboration and improvement. The ongoing challenges and future considerations emphasize the need for adaptive policymaking, resilience, and a sustained commitment to balancing public health and economic stability.

## **Conclusion**

Bulgaria's response to the COVID-19 pandemic provides a compelling case study of how a nation navigated unprecedented challenges. The combination of fiscal and macro-financial policies played a crucial role in mitigating the immediate economic impacts, sustaining employment, and supporting vulnerable populations. The relative resilience of Bulgaria's economy, as evidenced by a milder GDP contraction and stable unemployment rates compared to some EU member states, underscores the effectiveness of these measures. As the nation transitions into the post-pandemic era, ongoing challenges and emerging trends shape the trajectory of economic recovery. The rebound in economic activity, coupled with challenges in specific sectors like tourism, inflationary pressures, and the need for fiscal sustainability, highlight the complexity of the recovery process. Comparative regional analysis with neighbouring Balkan countries and EU member states provides valuable insights into shared challenges and diverse recovery paths. The social and welfare implications of the pandemic underscore the importance of inclusive policies and mental

health support programs. The uneven distribution of the pandemic's impact highlights the need for targeted interventions to address social disparities and foster a more equitable recovery.

While our study provides valuable insights into Bulgaria's response to the COVID-19 pandemic and its economic implications, it is important to acknowledge several limitations that may guide future research endeavours. Firstly, our study focuses primarily on the macroeconomic aspects of Bulgaria's response to the pandemic, leaving out detailed examinations of micro-level impacts on individual businesses, households, and vulnerable populations. Future research could delve deeper into these areas to uncover the differential effects of policy interventions across different segments of society. Moreover, while our study compares Bulgaria's response to that of neighbouring Balkan countries and EU member states, it does not delve into the specific contextual factors that may influence policy effectiveness in each country. Future research could explore these contextual nuances to provide a more comprehensive understanding of the drivers of successful crisis management strategies. Finally, our study does not consider the longer-term implications of the pandemic on Bulgaria's economy and society beyond the immediate recovery period. Future research could extend the analysis to examine medium to long-term trends, including the potential structural shifts in economic sectors, changes in consumer behaviour, and the evolving role of digitalization and technology. Addressing these limitations would enhance the robustness and applicability of future research on crisis management and economic resilience in Bulgaria and beyond.

Looking ahead, international collaboration, regional cooperation, and ongoing efforts to strengthen resilience will play pivotal roles in shaping Bulgaria's economic future. Lessons learned from the pandemic emphasize the necessity of adaptability, transparent communication, and the prioritization of sustainability and inclusivity in future policymaking. In essence, Bulgaria's experience during the COVID-19 pandemic offers a rich tapestry of policy responses, economic dynamics, and social considerations. This analysis contributes to the broader global discourse on crisis management, providing valuable insights for policymakers, researchers, and nations facing similar challenges. As the world continues to grapple with the aftermath of the pandemic, the lessons drawn from Bulgaria's journey will remain relevant for shaping resilient and adaptive economic policies in the years to come.

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