ECONOMIC RECOVERY AND IMPACTS OF CRISES ON THE TAX BASE IN BULGARIA

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Abstract: This study aims to examine the impacts of crises on the tax base of fiscal revenues from the perspective of taxpayers during Bulgaria's economic recovery post-pandemic. The applied research method involves a survey among individuals and legal entities, followed by data analysis using IBM SPSS. The findings confirm the specific intensity and direction of various macroeconomic factors ranging from crises to opportunities for economic recovery. Notably, the pandemic has significantly eroded the tax base in Bulgaria, primarily through reduced sales, compounded by political instability domestically and the war in Ukraine. Conversely, respondents positively evaluate business support measures during the pandemic and anticipate potential benefits for taxpayers upon the country's accession to the eurozone.

Keywords: value added, tax base, crisis factors, descriptive statistics.

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JEL: H24, H25, H26.

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1. Introduction and problem statement

The sustainability and the efficiency of the public sector of the economy depend on its ability to allocate budgetary resources effectively to fulfil the responsibilities of the state and municipalities. In the public finance system, the principle of "equality before the tax" is leading and should be consistently applied. However, political, social, and crisis-related factors often

negatively impact the tax base of major fiscal revenue sources. Macroeconomic crises also create "gaps" in the fiscal system, fostering problematic developments such as the "shadow economy" and tax evasion (Belev, Schneider, Djankov, Zahariev, & others, 2003). These issues have been observed both nationally and internationally (Mihaylova-Borisova & Nenkova, 2020). They are apparent in areas such as capital taxation (Zaharieva, Tarakchiyan, & Zahariev, 2022), economic turnovers (Roleders, Oriekhova, & Zaharieva, 2022), corporate performance (Copeland & Weston, 1989), (Zahariev, A., 2017), (Prodanov S. , 2012) or economic operations (Kostov, 2011). Not least, we can also find confirmations of crisis fiscal effects at the level of local taxes and fees (Nikonova, Sabitova, Shavaleeva, Khairullova, & Zahariev, 2020). Fiscal regulation extends to corporate social responsibility (Ivanovic-Djukic, Zahariev, & Lepojevic, 2021), and insurance operations (Prodanov & Stanimirov, 2020). Additionally, issues related to digitalization (Zahariev, et al., 2023) and determining the place of service delivery by economic operators based in different jurisdictions, and respectively, under the influence of different stages of the economic cycle, are also relevant.

Against this background, the study focuses on the tax base in Bulgaria, specifically examining economic recovery and the impacts of crises on the tax base as a source of fiscal revenue. The purpose of this article is to establish, through a survey, the attitudes of taxpayers towards the scale and direction of the impact of macroeconomic factors and events, characterized as both crises and opportunities for business.

2. Methodology and sample description

The survey was conducted in 2023 using an electronic questionnaire. Most questions were designed to elicit responses using a 5-point bipolar Likert scale. Responses were coded from 1 (strongly disagree) to 5 (strongly agree), with the midpoint response coded as 3, indicating a neutral stance towards the statement. This method generates responses that can be analyzed using descriptive statistics and regression-correlation analysis, given the identical ranking of response variation (Zahariev, Zaharieva, Mihaylova, & Ivanova, 2022), (Zhelev & Kostova, 2024). Under certain circumstances, the response analysis shifts from a 5-point Likert scale to a 3-point scale (negative responses, neutral opinion, positive responses). Thus, a bipolar trichotomous scale (Zahariev, et al., 2023) can derive conclusions regarding support or critical attitudes towards specific fiscal exceptions. Descriptive statistics are used to extract measures such as mean, mode, median, skewness, and kurtosis (Zahariev, Zaharieva, Mihaylova, & Nikolova, 2022), which provide an objective assessment of

taxpayers' attitudes toward tax fairness in income and value-added tax in Bulgaria. For questions outside the Likert scale, correlation-regression relationships can be established after appropriate coding.

The survey was conducted in 2023 with valid responses from 170 participants. Among them 78.2 percent were individuals, 20.6 percent were legal entities, and 1.2 percent were NGOs. The majority of respondents were economically active professionals or employees engaged in intellectual work, making up two-thirds of the sample. Women comprised 58 percent of the respondents. The largest age group was 30 to 49 years old, representing 68.24 percent of the participants. The most common educational attainment was a master's degree, held by 59 percent of respondents. In terms of family status, the leading category was married individuals with two or more children, making up 35.3 percent of the respondents. Regarding monthly income, the most common category was respondents earning between 2001 and 3400 BGN, making up 28.8 percent. Geographically, the highest percentage of respondents, 34 percent, lived in the capital city, Sofia.

3. Survey results

3.1. Tax fairness and macroeconomic environment

The assessment of tax fairness is typically influenced by the personal status of the respondent regarding income, employment, and prospects for business activity and entrepreneurship. The COVID-19 pandemic led to a series of crises that have significantly affected the behavior and attitudes of taxpayers. Therefore, the first question addressed in this article pertains to the tax reliefs provided to businesses during the COVID-19 pandemic. Respondents provided their assessments using a 5-point bipolar Likert scale.

The mean response is 2.67, with a mode of 2 and a median of 3. The standard deviation is 1.048, indicating moderate dispersion of responses on both sides of the bipolar Likert scale. The actual distribution of the responses is relatively symmetrical, with a concentration of responses on the left side (skewness of 0.101) and a platykurtic kurtosis of -0.863. There is a significant excess of negative over positive responses in an approximate ratio of 2:1. The neutral response was chosen by 27.6% of the respondents.

Table 1.

Statistical characteristics of the sample based on the assessment of the fairness of tax reliefs for businesses provided during the COVID-19 pandemic

Statistics		
N	Valid	170
	Missing	0
Mean		2.67
Std. Error of Mean		.080
Median		3.00
Mode		2
Std. Deviation		1.048
Variance		1.098
Skewness		.101
Std. Error of Skewness		.186
Kurtosis		-.863
Std. Error of Kurtosis		.370
Range		4
Minimum		1
Maximum		5
Sum		454

Source: Author's own study with data analysis using IBM SPSS

Table 2.

Absolute and relative indicators for grouping responses to the question evaluating the fairness of tax relief measures for businesses implemented during the COVID-19 pandemic

3. Were the tax relief measures for businesses implemented during the COVID-19 pandemic fair?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	13.5	13.5	13.5
	Disagree	57	33.5	33.5	47.1
	Neither disagree nor agree	47	27.6	27.6	74.7
	Agree	39	22.9	22.9	97.6
	Strongly agree	4	2.4	2.4	100.0
	Total	170	100.0	100.0	

Source: Author's own study with data analysis using IBM SPSS.

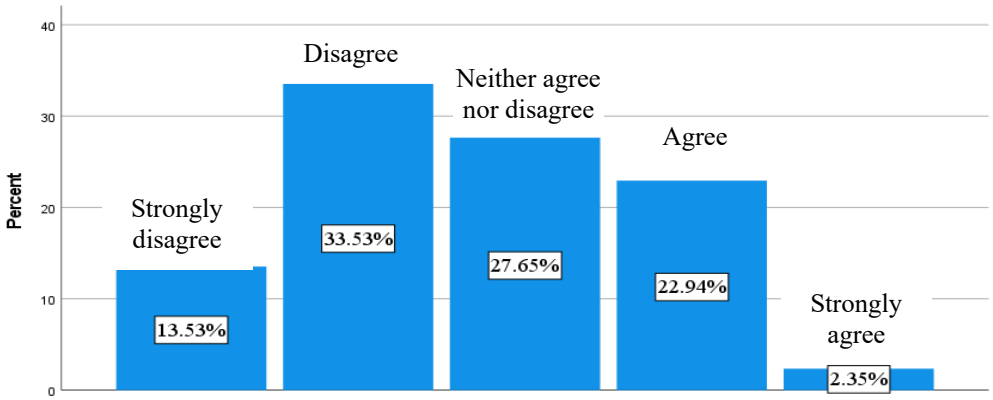

Figure 1. ***Histogram of responses to the question on the fairness of tax relief measures for businesses implemented during the COVID-19 pandemic***

The next question pertains to the tax base for value-added taxation (VAT) in the company, considered as a dependent variable influenced by the consequences of the pandemic. Responses are given in six options.

Table 3.
Statistical characteristics of the sample based on the impact of the COVID-19 pandemic on the revenues of the respondent's company

Statistics		
N	Valid	170
	Missing	0
Mean		3.96
Std. Error of Mean		.130
Median		4.00
Mode		6
Std. Deviation		1.697
Variance		2.880
Skewness		-.185
Std. Error of Skewness		.186
Kurtosis		-1.368
Std. Error of Kurtosis		.370
Range		5
Minimum		1
Maximum		6
Sum		673

Source: Author's own study with data analysis using IBM SPSS

Table 4.

Absolute and relative indicators for grouping responses to the question on the impact of the COVID-19 pandemic on the revenues of the respondent's company

4. Based on your personal observations, how did COVID-19 impact your company's revenues?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Increased	11	6.5	6.5	6.5
	Decreased by up to 20%	38	22.4	22.4	28.8
	Decreased by up to 49%	19	11.2	11.2	40.0
	Decreased by more than 50%	29	17.1	17.1	57.1
	No impact	25	14.7	14.7	71.8
	Cannot assess	48	28.2	28.2	100.0
	Total	170	100.0	100.0	

Source: Author's own study with data analysis using IBM SPSS.

The mean response (with six alternative assessment options) is 3.96, with a mode of 4 and a median of 6. The standard deviation is 1.697, indicating significant dispersion of the responses. The actual distribution of the responses is relatively asymmetrical, with a concentration of answers on the right side of the histogram (skewness of -0.185) and a platykurtic kurtosis of -1.368. There is a notable predominance of neutral responses over both positive and negative responses. More than 50% of respondents reported a decrease in revenues ranging from -20% to more than -50%!

Amidst a series of crises, the war in Ukraine, now entering its third year, is also a factor with the potential to affect various sectors of the economy. The mean response (with six alternative assessment options) is 4.55, with a mode of 6 and a median of 4. The standard deviation is 1.643, indicating significant dispersion of responses. The distribution of responses is asymmetrical, with a concentration of answers on the right side of the histogram (skewness of -0.650) and a platykurtic kurtosis of -0.639.

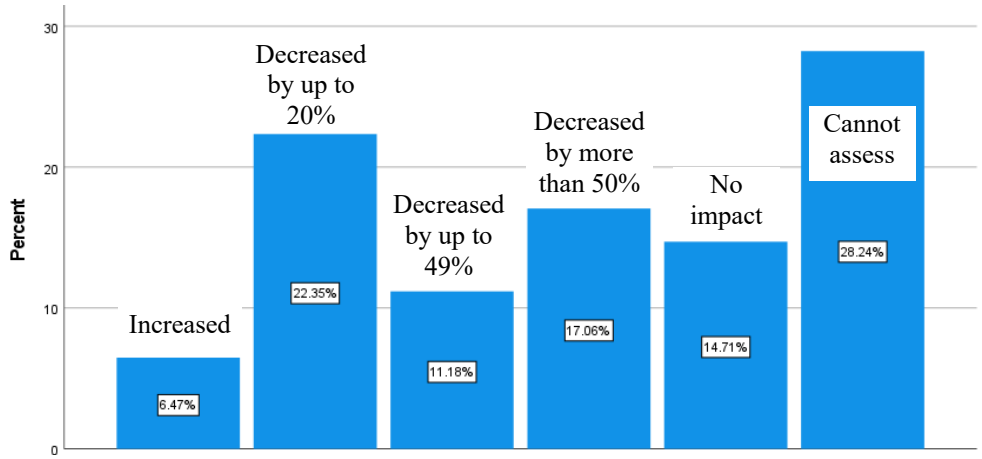

Figure 2. ***Histogram of responses to the question on the impact of the COVID-19 pandemic on the revenues of the respondent's company***

Table 5.

Statistical characteristics of the sample based on the assessment of the impact of the war in Ukraine on company revenues

Statistics		
5. How did the war in Ukraine impact the revenues of the company where you work?		
N	Valid	170
	Missing	0
Mean		4.55
Std. Error of Mean		.126
Median		5.00
Mode		6
Std. Deviation		1.643
Variance		2.698
Skewness		-.650
Std. Error of Skewness		.186
Kurtosis		-.639
Std. Error of Kurtosis		.370
Range		7
Minimum		1
Maximum		8
Sum		774

Source: Author's own study with data analysis using IBM SPSS.

Table 6.

Absolute and relative indicators for grouping responses to the question on the impact of the war in Ukraine on company revenues

5. How did the war in Ukraine impact the revenues of the company where you work?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Increased	5	2.9	2.9	2.9
	Decreased by up to 20%	32	18.8	18.8	21.8
	Decreased by up to 49%	6	3.5	3.5	25.3
	Decreased by more than 50%	14	8.2	8.2	33.5
	No impact	53	31.2	31.2	64.7
	Cannot assess	60	35.3	35.3	100.0
	Total.	170	100.0	100.0	

Source: Author's own study with data analysis using IBM SPSS.

Neutral responses predominate, making up two-thirds of all answers. For 30% of respondents, revenues declined between -20% and more than -50%! The survey also addresses the political environment in Bulgaria, characterized by frequent parliamentary elections.

Table 7.

Statistical characteristics of the sample based on the assessment of the impact of the dynamic political situation in Bulgaria with frequent parliamentary elections on the company revenues

Statistics		
6. How did the dynamic political situation in Bulgaria impact the revenues of the company where you work?		
N	Valid	170
	Missing	0
Mean		4.73
Std. Error of Mean		.129
Median		5.00
Mode		6
Std. Deviation		1.677
Variance		2.814
Skewness		-.835
Std. Error of Skewness		.186
Kurtosis		-.482
Std. Error of Kurtosis		.370
Range		7
Minimum		1
Maximum		8
Sum		804

Source: Author's own study with data analysis using IBM SPSS.

Table 8.

Absolute and relative indicators for grouping responses to the question on the impact of the dynamic political situation in Bulgaria with frequent parliamentary elections on the revenues of the company where the respondent works

6. How did the dynamic political situation in Bulgaria impact the revenues of the company where you work?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Increased	6	3.5	3.5	3.5
	Decreased by up to 20%	28	16.5	16.5	20.0
	Decreased by up to 49%	7	4.1	4.1	24.1
	Decreased by more than 50%	9	5.3	5.3	29.4
	No impact	41	24.1	24.1	53.5
	Cannot assess	76	46.5	46.5	100.0
	Total.	170	100.0	100.0	

Source: Author's own study with data analysis using SPSS.

The mean response (with six alternative options) is 4.73, with a mode of 6 and a median of 4. The standard deviation is 1.677, indicating significant dispersion of responses. The actual distribution of responses is relatively asymmetrical with a concentration of responses on the right side of the histogram (-0.835), and a platykurtic excess value of -0.482. There is a marked predominance of neutral over both positive and negative responses. A quarter of respondents report a revenue decline ranging from -20% to more than -50%, attributing this to the dynamic political situation in Bulgaria with frequent parliamentary elections.

The prospective question regarding the potential positive impact of the introduction of the euro on respondent's tax obligations allows for responses on a Likert scale.

Table 9.

Statistical characteristics of the sample based on the assessment of the positive impact of the introduction of the euro on respondent's tax obligations

Statistics		
9. Do you believe that the introduction of the euro will have a positive impact on your tax obligations?		
N	Valid	170
	Missing	0
Mean		2.71
Std. Error of Mean		.093
Median		3.00
Mode		2
Std. Deviation		1.215
Variance		1.475
Skewness		.161
Std. Error of Skewness		.186
Kurtosis		-.997
Std. Error of Kurtosis		.370
Range		4
Minimum		1
Maximum		5
Sum		460

Table 10 .

Absolute and relative indicators for grouping responses to the question assessing the positive impact of introducing the euro on respondent's tax obligations

9. Do you believe that the introduction of the euro will have a positive impact on your tax obligations?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	33	19.4	19.4	19.4
	Disagree	46	27.1	27.1	46.5
	Neither disagree nor agree	41	24.1	24.1	70.6
	Agree	38	22.4	22.4	92.9
	Strongly agree	12	7.1	7.1	100.0
	Total	170	100.0	100.0	

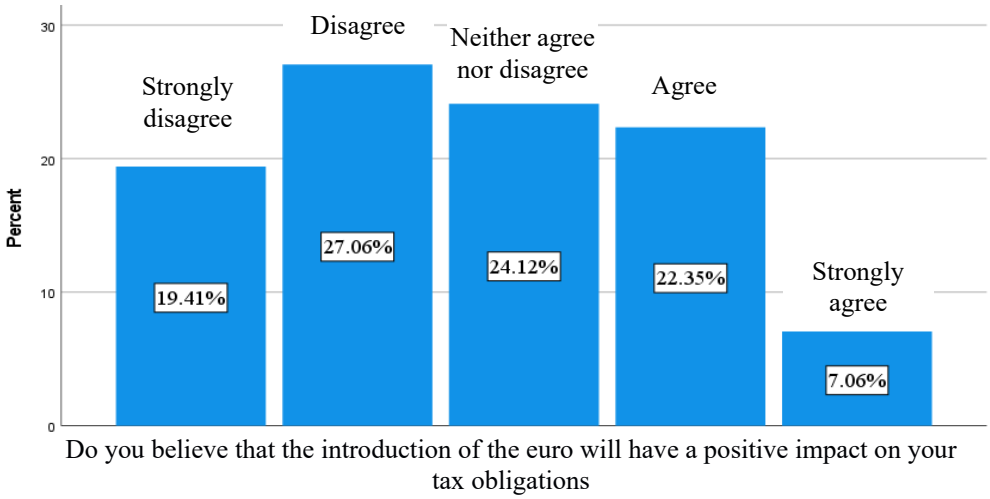

Figure 3. ***Histogram of responses to the question assessing the positive impact of introducing the euro on respondent's tax obligations***

The arithmetic mean for the responses is 2.67, with a mode of 2 and a median of 3. The standard deviation is 1.048, indicating a moderate dispersion of responses across both ends of the bipolar Likert scale. The actual distribution of the response curve is relatively symmetrical, with a concentration of responses in the lower range (0.101). It exhibits a platykurtic excess of -0.863. There is a pronounced excess of negative responses over positive ones, approximately in a 2:1 ratio. Neutral responses account for 27.6% of the respondents.

4. Conclusion

The sample results from the conducted survey clearly indicate a direct influence of crisis events on the tax base of Bulgaria's major fiscal revenue sources. Among the factors studied, the COVID-19 pandemic stands out as having the most substantial negative impact, followed by political uncertainty in the country and the war in Ukraine.

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