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ABSTRACT

of a dissertation for awarding the educational and scientific degree "Doctor" (in Economics) under the doctoral program "Finance, Money Circulation, Credit and Insurance" (Finance) on the topic:

ECONOMIC MEASURES IN BULGARIA DURING A PANDEMIC - FINANCIAL AND SOCIAL ASPECTS

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I. General characteristics of the dissertation

1. Topicality of the topic

The COVID-19 pandemic has become a global shock of unprecedented scale and depth, affecting not only health systems, but also the economy, society and government. In the context of a radical restriction of economic activity, disruption of supply chains, a drop in demand and growing social vulnerability, the need for urgent, targeted and effective state intervention has emerged. This has raised a number of questions about the role, scope and effectiveness of economic measures implemented in crisis situations.

Particularly affected by the economic consequences of the pandemic were small and medium-sized enterprises (SMEs), which form the backbone of the national economy in Bulgaria. Their limited access to financial reserves, lower adaptability and high dependence on consumer demand made them extremely vulnerable. In this context, the need has arisen to develop science-based tools for analysing the policies implemented and assessing their impact on economic stability and social well-being.

The relevance of the topic is also underlined by the fact that the issues raised by COVID-19 go beyond the pandemic itself. They highlight the need for sustainable economic mechanisms to be activated in future complex crises. This study not only analyzes the effectiveness of the measures taken in Bulgaria, but also offers an approach for an interdisciplinary assessment of the state response to multi-layered and heterogeneous threats.

This study focuses on the complex and multi-layered phenomenon of state economic intervention in the context of a systemic crisis, such as the COVID-19 pandemic. In today's globalized economy, the pandemic shock has a simultaneous impact on supply and demand, accompanied by destabilization of key macroeconomic indicators, including GDP, employment, inflation, public debt and budget deficit. This context requires a new reading of the role of the state in economic life, which goes beyond the dogmatic framework of neoliberalism and revives the classical debate on interventionism in the face of market imperfections and social deficits.

The research relevance also stems from the need to fill the existing analytical vacuum in the scientific literature concerning the concrete manifestation of economic policies in a national context. Although the global framework of the crisis is similar, the political and economic responses of individual countries reveal significant differences in terms of fiscal flexibility, institutional reactivity and the degree of social protection. Therefore, the study of the Bulgarian pandemic response provides valuable empirical material on which to build generalizations about the effectiveness of state intervention in an emergency situation.

2. Object and subject of the study

The subject of this study is state intervention in the economy during crises. The subject of the dissertation is the economic measures to support small and medium-sized enterprises (SMEs) in Bulgaria, their effectiveness and impact on economic stability and the recovery of affected businesses.

3. Research Thesis

The current study defends the thesis that state intervention is a key factor for stability and growth in times of crisis, but a successful postpandemic recovery requires a balanced combination of interventions and market mechanisms to ensure the long-term sustainability of the economy. The effectiveness of state economic support measures in Bulgaria during the COVID-19 pandemic depends on the degree of their purposefulness, adaptability and integration into a broader strategy for sustainable economic recovery.

In the context of the COVID-19 pandemic, adequate and timely economic policies have played a significant role in minimizing the negative effects on small and medium-sized enterprises and have contributed to the economic recovery process.

The dissertation examines the interaction between state support and

business recovery in the post-crisis period, analyzing the strengths and weaknesses of the implemented policies. The main hypothesis is that while government measures were vital to prevent mass bankruptcies, their effectiveness was limited by administrative barriers and uneven access to finance for different businesses.

4. Purpose of the dissertation

The purpose of the dissertation is to explore the theoretical views on state intervention, the existing models and tools for crisis support of enterprises, to analyze the economic measures implemented in Bulgaria during the COVID-19 pandemic and their impact on the economy and social life.

5. Tasks and methodology of the study

To achieve the main goal, the following specific tasks are set:

- a) Analysis of theoretical views on state intervention in the economy. Study of the different economic schools and theoretical concepts of state intervention.
- b) Classification and analysis of the types of state intervention in the economy. Historical Approach in the Analysis of State Intervention in the Economy in Crises.
- c) Study of economic measures to support business during crises. Classification and evaluation of the various instruments of state intervention, including fiscal, monetary, regulatory and social measures, with a focus on their application in the COVID-19 pandemic.
- d) Analysis of the main models of state intervention: the model of the social market economy, the Scandinavian model, the Anglo-Saxon model, the Asian models of state management of the economy, etc.
- e) Bibliometric analysis of the main economic debate "interventionism neoliberalism".
- f) A review of the scientific literature related to opposing views

on the role of the state in the economy. An assessment of the dominant economic arguments in support of interventionism and neoliberalism in the context of the pandemic.

- g) Identification and analysis of the instruments for support of small and medium-sized enterprises (SMEs) in Bulgaria. Assess the adequacy, accessibility and effectiveness of these tools from the perspective of the enterprises concerned.
- Analysis of the effects of economic recovery from the shock effects of the pandemic. Assessment of macroeconomic indicators (GDP, employment, inflation, public debt and budget deficit) as indicators of economic recovery after the pandemic.
- i)Empirical study with a survey on the effects of measures to support SMEs in Bulgaria. Conducting a survey among small and mediumsized enterprises to assess the effectiveness of state intervention, difficulties in accessing support and the long-term consequences of the pandemic on business. Summarizing the results and making recommendations for improving future economic measures aimed at small and medium-sized businesses.

The methodological construction of the study is based on a combination of qualitative and quantitative approaches – theoretical analysis, comparative method, regression and correlation analysis, analysis of cause-and-effect relationships, questionnaire research, as well as critical evaluation of public policies. This allows for a comprehensive and in-depth study of the effects of crisis state intervention, as well as for the formulation of recommendations with a high degree of applicability in the context of future economic shocks. The following scientific methods and approaches are used to achieve the research goals and objectives:

- A review of the literature on the topic of the study a review and systematization of the academic literature on the topic of state intervention.
- Bibliometric analysis review and systematization of academic literature on the topic of state intervention in economic crises.
- Analysis of statistical macro data on GDP, unemployment rate, public

debt, budget deficit and other key indicators provided by national and international institutions (NSI, BNB, Eurostat, IMF, World Bank).

- Comparative analysis comparison between the measures adopted in Bulgaria and those implemented in other countries in order to draw conclusions about their effectiveness and future applications.
- Qualitative policy analysis evaluation of the implemented state programs for economic assistance through analysis of government documents, legislative acts and reports of international organizations.
- Empirical analysis of a survey a study of the effects of measures to support small and medium-sized enterprises (SMEs) through a questionnaire containing information on the challenges faced by businesses and the degree of effectiveness of the support provided.

6. Scope of the study

The present dissertation research is developed within the framework of an analysis of the economic measures taken in Bulgaria during the COVID-19 pandemic, with a focus on their impact on small and medium-sized enterprises (SMEs) and the social environment. The chronological framework of the study covers the period 2020-2023, when the economic consequences of the pandemic manifested and developed and large-scale public interventions were implemented. For the purposes of statistical and historical-economic analyses, data from a wider period - 2000-2022 -were also used, which allows a comparison of fiscal dynamics before, during and after the peak of the crisis.

The study focuses on Bulgaria, but also includes comparative elements with other countries in the European Union and beyond, in order to highlight the specific characteristics of the Bulgarian model of economic response to the crisis. The subject of the study is state economic intervention in the context of a systemic crisis, while the subject of the analysis is the specific fiscal, social and regulatory measures applied in support of SMEs, their effectiveness, accessibility and impact on economic stability and recovery. The topics covered in the dissertation cover both theoretical grounds for public intervention in the economy and empirical studies of the real implementation of policies in a pandemic context. The analysis includes a study of interventionism and neoliberalism as competing paradigms, a review of welfare state models, a regression study of fiscal policy, a bibliometric analysis of scientific output on the topic of "economic assistance", as well as a survey among Bulgarian SMEs.

7. Structure of the study

INTRODUCTION

The dissertation has a total volume of 256 standard pages, structured in three chapters as follows:

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3. Alternative economic views on state intervention in the economy 22

4. Types of State Intervention and Main Models in Its 26 Implementation

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8. Applicability of the results of the study

The results of the dissertation research are distinguished by their applicability both theoretically and practically. They provide a systematized analytical framework for assessing economic measures for state intervention in times of crisis, with a focus on public policies aimed at small medium-sized enterprises (SMEs). The and conclusions and recommendations can be used by state institutions involved in the formulation and implementation of anti-crisis economic measures, including the Ministry of Finance, the Ministry of Economy and Industry, as well as by the executive agencies managing European and national business support programs.

The empirical results of the survey among SMEs are of practical value, which allow refining the existing mechanisms for access to funding, improving administrative procedures and strengthening the targeting of public support. The results are also important in the context of the development of strategic documents and plans for economic sustainability, especially in view of the requirements for adaptability to shock impacts – health, energy or geopolitical. In this sense, this study is also applicable in the planning and monitoring of measures under the National Recovery and Resilience Plan, as well as future multiannual budgetary frameworks of the EU.

From an academic point of view, the developed models, theoretical summaries and bibliometric conclusions can be used for further research in the fields of public finance, social economy and crisis management.

II. Main content of the dissertation

CHAPTER ONE. ECONOMIC GROUNDS FOR STATE INTERVENTION

State intervention in the economy has been a long-standing topic of contentious debate among economists and politicians. The rationale for such intervention varied in different historical contexts, often reflecting the prevailing economic theories and challenges of the era.

Chapter One of the dissertation examines the theoretical foundations, paradigms and models justifying the need for state intervention in the economy. It begins with a historical review of classical economic doctrines, according to which the market is considered a self-regulating mechanism, and state intervention is considered minimally necessary. This view is mostly associated with Adam Smith and his concept of the "invisible hand in the market", according to which the rational pursuit of self-interest leads to general welfare.

Crisis events such as the Great Depression in the 1930s called into question the effectiveness of the laissez-faire model. This led to the rise of Keynesianism, which proposed an active role for the state in managing aggregate demand, through fiscal and monetary policy. Keynes emphasized that in times of economic uncertainty, only the state can guarantee stability and full employment. Keynesian economics, which serves as the basis for interventionist policies, suggests that government spending stimulates demand during economic downturns (Keynes J. M., 1936, ctp. 115). Proponents of state intervention argue that markets are inherently unstable and prone to failure, necessitating regulation by the state for economic stability and social justice (Stiglitz J., 2012, ctp. 88).

Economic theory offers valuable tools for identifying actual problems in economic efficiency, diagnosing their causes, and determining the appropriate forms of government intervention. This is especially important given the complexity of economic systems, where intuitive judgments about their operation and successful functioning are often inaccurate. Furthermore, welfare economics, financial and economic analysis can provide a systematic approach to addressing societal problems that seem to require government intervention. Market failures occur when the free market fails to allocate resources efficiently, resulting in social losses. Externalities, monopolies, and asymmetric information are the three main mechanisms that distort market outcomes. In such cases, state intervention is necessary to correct inefficiencies and ensure better public welfare.

In the argument for the need for state intervention, a particularly important place is occupied by the achievement of economic stability - the ability of an economy to maintain sustainable growth, low unemployment and controlled inflation, neutralizing the negative effects of cyclical fluctuations. The state has a key role in achieving economic stability through its fiscal and monetary policies.

Every society depends on the well-being of its members, on their social status, health and interconnectedness. Perhaps the most irreplaceable and important reason for imposing state intervention is to ensure a good level of well-being for those living in a country. Social welfare is a concept related to improving living standards and ensuring equal opportunities through economic and social policies for all people. Income redistribution policies, such as progressive taxation, social benefits and access to education and healthcare, play a key role in reducing poverty and inequality. Through these mechanisms, the state promotes the economic inclusion of vulnerable groups and creates a fairer society. Atkinson concludes that effective social welfare policies not only mitigate economic inequalities but also contribute to long-term economic stability and social cohesion (Atkinson, 2015, crp. 304).

Achieving social well-being is essential for sustainable economic development and social stability. In economic theory and practice, it is recognized that an equitable distribution of resources and access to basic services such as education, health care and social protection are key factors for economic productivity and social peace. In recent years, many economists have drawn attention to the fact that excessive economic inequality can undermine long-term growth and lead to social and political tensions. Thomas Piketty emphasizes that economic inequality tends to deepen when targeted redistributive policies are not implemented. According to him, progressive taxation and public investment in education and health care are necessary to prevent economic and social imbalances (Piketty, 2014). Joseph Stiglitz emphasized the role of the state in mitigating market failures and in ensuring a minimum standard of living. According to him, economies with better developed social policies and stable institutions achieve higher long-term growth and social stability (Stiglitz J. , 2012).

Amartya Sen views well-being as an economic indicator and as a matter of social opportunity and human rights. He proposed the concept of economic development as an extension of freedoms, emphasizing that access to education, health care and political rights are an integral part of economic development. "Development requires the elimination of the main sources of unfreedom: poverty as well as tyranny, lack of economic opportunities, as well as systemic social exclusion, neglect of public services, and intolerance or overactivity of repressive states. Despite an unprecedented increase in general well-being, the modern world is denying basic freedoms to a huge number of people – perhaps even the majority," Sen warns (Sen, 1999).

Welfare indices other than GDP are increasingly important. Such are the OECD Better Life Index and the UN Human Development Index. They evaluate multiple factors other than economic activity, including education, health care, and social security, to measure the true development of society (OECD, 2021), (United Nations Development Programme, 2021). These indices are a recognition that achieving social well-being is not only ethically justified, but also economically necessary. A high level of social protection and a fair distribution of resources create more stable economies and reduce the risk of crises.

The next section is devoted to neoliberalism, an economic school that dominated the last decades of the twentieth century. It restores confidence in market mechanisms and focuses on deregulation, privatization and limiting public spending. Representatives such as Friedrich Hayek and Milton Friedman have emphasized the risks of excessive state intervention, which they say leads to inefficiency and loss of individual freedom. However, criticism of neoliberalism has intensified since the global financial crisis of 2008 and especially during the COVID-19 pandemic, when a strong public response is again required to protect the economy and population.

Chapter One also presents alternative economic views. The discussion about the choice of "neoliberalism or state intervention" remains a central issue in economic policy choices. Neoliberalism is focused on market efficiency, and state intervention seeks to correct market failures and promote social well-being. Many empirical studies demonstrate that the extremes of the two pure concepts do not lead to optimal results. In the Nordic countries, such as Sweden and Denmark, for example, there is a balanced model that combines a free market with active state intervention, including high taxes, extensive social services and regulated labour markets. This combination allows economic growth, but also provides stability and social protection. On the other hand, the neoliberal model prevails in the United States, with lower taxes, less government intervention and a more flexible labour market, which encourages innovation and entrepreneurship, but leads to higher levels of economic inequality and insecurity for more vulnerable groups. This demonstrates that neither approach is optimal, and sustainable economic development often requires a combination of market freedom and strategic state intervention. Is any different approach or synthesis of the two pole models possible, then?

The combined approach, containing effective market mechanisms and effective state regulation and supervision, is seen as *modus operandi* contributing to long-term economic development. Joseph Stieglitz proposed the concept of the "third way", which implies manoeuvring between free market capitalism and socialist state control. This model advocates the strategic participation of the state in ensuring justice and long-term development without excessive bureaucratic control (Stiglitz J. , 2003).

In a similar search for balance *Ordoliberalism* Walter Eucken proposes a structured regulatory framework to maintain competitive

markets while proposing targeted social policies as a matter of priority. The supporters of the ordoliberal principles of the "Freiburg School" in the period between the two wars retained their influence on the drafting of competition laws both in Germany and in Europe after the Second World War. Wernhard Möschel refined the approach of the ordoliberals to competition policy to four required elements, namely: guaranteeing individual economic freedom, a strong role of the state in preserving competition without direct state intervention, competition policy in a state governed by the rule of law, and competition policy embedded in the economic system of a free and open society (Talbot, 2016, p. 266). Müller-Armack and Ludwig Erhard made their remarkable contributions to the development of the concept of a social market economy, where competition and social security measures coexist, promoting growth and fairness (Goldschmidt, 2004).

Behavioural economics challenges the basic assumption in classical and neoclassical economics that individuals act rationally, based on complete information and a logical cost-benefit analysis. Instead, this school explores how psychological and cognitive factors influence economic behaviour, demonstrating that people often act irrationally but predictably.

Further, a classification of the types of state intervention is made, divided according to the type of economy (market, planned or mixed), as well as according to the type of goods (private, public, club, quasi-public). It is stated that the distribution mechanism in the different economic systems (state or market) affects the efficiency and fairness of access to resources. In a planned economy, decisions are made centrally, which ensures equality, but leads to inefficiency and lack of adaptability. In a market economy, on the contrary, efficiency dominates, but at the cost of higher social polarization.

An important emphasis is placed on the main models of state intervention, which are considered in detail:

- The Anglo-Saxon model (USA, UK) is characterized by minimal intervention, flexible markets and individual responsibility.

- The Nordic model (Sweden, Denmark, Norway) combines a market economy with comprehensive social protection.

- The German model of the social market economy maintains a balance between competition and social security, including strong institutions and coordination between market participants.

- The Japanese model includes an associative approach, in which the state and the private sector act together through formal and informal structures.

Particular attention is paid to measures of state intervention, where total government expenditure is indicated as a percentage of GDP as a leading indicator. It is pointed out that during crises such as the COVID-19 pandemic, public spending increases sharply – through fiscal stimulus, social programs and targeted subsidies. This confirms the importance of the state as a stabilizing factor in the economy.

General government expenditure (*General Government Expense*) or only Costs (*Expense*) in % of GDP are a good measure of state intervention, as they cover the direct activity of the government (World Bank Group, 2025). Spending includes key government spending such as salaries, subsidies, social benefits, and grants, which increase significantly during economic crises to support the economy. Governments typically increase spending during crises to stabilize economic conditions through stimulus packages, unemployment benefits, business bailouts, and investments in healthcare. The increase in expenditure (% of GDP) during the crisis years is a strong indicator of intervention. Because it is measured as a percentage of GDP, it allows comparisons between countries and tracking government intervention before, during, and after crises.

General government expenditure focuses on cash outflows for operating activities, but does not include capital expenditures (e.g. infrastructure projects, long-term investments). Some interventions, such as tax cuts or monetary policies, are not reflected in spending.

Expenditure (% of GDP) is a focused but incomplete measure of state intervention. It effectively captures short-term fiscal responses during crises, but needs to be complemented by capital expenditure, deficit expenditure and monetary policy indicators for a broader scope of intervention. For the purposes of the dissertation, however, Expenditure (% of GDP) is the most appropriate measure of government intervention through short-term actions to support households and firms, without prejudice to long-term economic intervention actions such as monetary policy instruments in the form of interest rate cuts or quantitative easing, as well as tax cuts, loan guarantees and central bank interventions.

Alternative measures of state intervention include various indicators. Social protection expenditure (% of GDP) is a good substitute directly aimed at economic assistance, reflecting the scale of social safety nets. During the COVID-19 crisis in 2020, governments massively increased spending on direct cash transfers, wage subsidies and social unemployment benefits. However, it does not cover tax relief measures and, most importantly, does not take into account business rescue or corporate subsidies. And the pandemic has affected societies precisely through the inability of companies to function normally. Another possible candidate is the Fiscal Deficit (% of GDP), which shows how much additional expenditure is financed to counter crises. However, fiscal deficits can also arise for many other reasons - for example, the philosophy of the economic policy of the state or for political reasons. Unemployment benefits (% of GDP) are measures of direct financial support for people in difficult economic situations. And here the focus on supporting the corporate sector, which was extremely urgent in the context of COVID-19, is missing.

Figure 1 shows the expenditures of Bulgaria, the European Union and the world according to World Bank data for the period 2000-2022, with the latest published data for 2022 (World Bank Group, 2025). The peak in spending due to the pandemic, which is the result of measures for economic support, social payments and healthcare, is obvious.



Figure 1 Dynamics of total government expenditures (% of GDP) for Bulgaria, the EU and the World East. World Bank (World Bank Group, 2025)

The most stable expenditures are in the EU, which ranges from 36%-40% of GDP, excluding pandemic years. Spending by countries around the world is at a much lower level, ranging between 23% and 33%, due to lower social spending and different economic patterns in developing countries, which have a large weight in the structure of global government spending. Expenditures in Bulgaria are much more volatile in the current century. Most of the time, Bulgaria spends a smaller percentage of GDP compared to the EU, but in 2022 the level (39.4%) already exceeds the EU average (39.3%). While the correlation coefficient of global and EU spending is very high (0.8943) and shows a strong positive relationship, the correlation of Bulgaria's spending with global spending (0.441) and Bulgaria's spending with EU spending (0.45) is much weaker. Bulgaria has a different economic structure compared to the EU average with a smaller economy, a higher dependence on external investments and a greater role for sectors with low added value. There are years in which Bulgarian spending differs sharply from that of the EU. For example, in 2014 Bulgaria had a jump in government spending (38%), while the EU remains more stable, the trend towards convergence to the EU average is also obvious. These fluctuations and trends are related both to internal economic factors and political events, as well as to the country's integration into the EU.

Before examining the relationship between European Union (EU) expenditure and Bulgaria's expenditure through regression analysis, a causality test (Granger Causality Test) is performed. Its purpose is to establish whether the expenditure of one party (Bulgaria) can be used to forecast the expenditure of the other (EU) and vice versa. The Granger Causality Test tests whether the past values of one variable contribute to better prediction of another variable, and if this effect is statistically significant (p-value < 0.05), it is assumed that a causal relationship exists.

The results of the tests show that there is no statistically significant causal relationship between EU spending and Bulgaria's spending in either direction. This means that although there is a moderate correlation between the two values, the costs of Bulgaria and the EU do not directly depend on each other over time. They are influenced by many other factors such as economic cycles, global crises, political decisions, and national fiscal policies.

After this analysis, a regression model is constructed to investigate whether EU and Bulgarian expenditures are related within the same period, without looking for causal relationships over time.



Figure 2 Regression analysis of European Union (EU) expenditures - expenditures of Bulgaria (2000-2022)

The analysis of the regression model shows that there is a moderate positive relationship between the government spending of the European Union (EU) and the government spending of Bulgaria. This means that when EU spending increases, Bulgaria's spending also tends to increase, but this relationship is not very strong.

Table 1 Evaluation of the regression analysis model of the relationship "government expenditures of the European Union (EU) and government expenditures of Bulgaria (% of GDP)" for the period 2000-2022

Statistics	Value
R Square (R ²)	0.450218
Adjusted R ²	0.202696
Standard Error	0.164729
Observations	2.267465

The correlation coefficient is 0.45, which indicates a moderate relationship. The value of R2 reveals that only 20.27% of the change in Bulgaria's expenditure can be explained by EU spending, while the

remaining 79.73% is due to other factors – domestic economic policies and political decisions or global macroeconomic influences.

Table 2 ANOVA analysis of the significance of a regression analysis of the relationship "government expenditures of the European Union (EU) and government expenditures of Bulgaria (% of GDP)" for the period 2000-2022

Source df		SS	MS	F-Stats	Significance		
					F		
Regression	1	27.44873	27.44873	5.338769	0.031105		
Residues	Residues 21		5.141396	-	-		
Total	22	135.418	-	-	-		

The results of the ANOVA test show that the model is statistically significant (p = 0.0311), which means that the relationship between EU and Bulgarian spending is not accidental. This indicates that Bulgaria's spending is influenced by trends in the EU, which is understandable because of the transfers and the synchronization of a number of policies.

Table 3 Coefficients

Variable	Coefficients	Standard Error	t-Statistics	P-value	95% Confidence Interval
Constant	Constant 6.084007 11.8		0.511296	0.614478	-18.6617
EU					
government					
expenditure					
(% of GDP)	0.719442	0.311369	2.310578	0.031105	0.071915

The regression line equation is:

Expenditures of Bulgaria = $6.08 + 0.719 \times Expenditures$ of EU Equation 1

The parameters of the equation are interpreted as that with an increase in EU spending by 1% of GDP, Bulgaria's expenditures increase

by an average of 0.719% of GDP. It is noteworthy that the value of the constant (6.08) is not statistically significant (p = 0.6145), which means that it does not make a significant contribution to the model and may be due to random variations. This analysis shows that while EU spending has an impact on Bulgaria's spending, this dependence is relatively weak and there are many other factors that play a role. Bulgaria is influenced not only by European economic policies, but also by domestic economic priorities and policies. The EU has a stable and highly developed social model that requires fixed expenditures - for healthcare, social benefits, education, etc. The years after Bulgaria's accession to the EU have contributed to ever closer integration and closer to the European model of a welfare state.

The theoretical foundations of state intervention in the economy discussed in this chapter outline the long-standing debate between interventionism and neoliberalism as two opposing but interrelated approaches to economic governance. The historical development of economic theory shows how the role of the state has been transformed in response to socio-economic challenges, from classical minimal intervention liberalism to Keynesian interventions and the subsequent neoliberal reaction promoting market self-regulation.

Financial and social crises in different historical periods, from the Great Depression in the 1930s to the financial crisis of 2008 and the subsequent COVID-19 pandemic, show that economic policy cannot be neutral and that the degree of state intervention must be adapted to the specific macroeconomic situation. While neoliberal economists defend the principle of limited state role in the economy with an emphasis on the free market, interventionists emphasize the need for active fiscal and monetary policy to deal with economic shocks and inequalities.

The analysis of the different models of state intervention – the Anglo-Saxon, Scandinavian, German and Japanese – is indicative that different economic systems apply their own mechanisms for balancing the free market and social protection. Each model reflects specific national priorities and cultural specificities, but the general conclusion is that

successful economic systems combine market mechanisms with effective regulatory and social policies.

In addition, the considered concepts of public, private and mixed goods show that the market economy allocates resources efficiently in the field of private goods, but encounters a number of problems in the provision of public and socially significant services. This necessitates state intervention in various aspects of the economy, especially in times of crisis, when market mechanisms prove insufficient to ensure stability and social justice.

Ultimately, the question is not whether the state should intervene in the economy, but how and to what extent it should do so in order to ensure sustainable economic growth and social stability. The global economic crises and the COVID-19 pandemic have highlighted that economic policy must be adaptive and based on empirical evidence in order to be able to respond effectively to challenges. intervention in Bulgaria during the pandemic and its effects on the economy and social life.

CHAPTER TWO. OPTIMISING THE TOOLKIT TO TACKLE THE PANDEMIC CRISIS

Chapter two of the dissertation is devoted to the analysis of the economic mechanisms and public interventions implemented in response to the COVID-19 pandemic. Crises are phenomena that inevitably accompany the development of human civilization in general and the economy in particular. For example, at the turn of the 20th and 21st centuries, the Asian crisis of 1997 broke out, which was caused by accelerated economic growth, the need for credit and a sharp increase in indebtedness. This was followed by the Great Recession of 2007-2009, triggered by a kind of bubble of overly optimistic lending - in this case in the segment of residential mortgages in the United States. The bursting of that bubble sank financial giant Lehman Brothers, forced multiple banks to be bailed out with public funds, and curtailed lending to such an extent that consumption and global trade shrank dramatically. Although this

recession was considered the worst economic crisis since the Great Depression of 1929-1939, it did not remain isolated and unsurpassed in a series of crises.

After a decade of economic growth and optimism for a sustained economic and social boom, the world has woken up to the nightmare of a rapidly spreading epidemic that quickly grew into a global pandemic – the coronavirus infection called COVID-19. Although initially the infection seemed to be a copy of other epidemics of a regional nature such as SARS, Ebola or swine flu, COVID-19 turned out to be in the category of pandemics causing serious social and economic cataclysms, such as the plague and the Spanish flu.

In addition to the health and social aspects of the humanitarian crisis, COVID-19 has caused a large-scale economic crisis, due to the need for social isolation and the inability of a number of sectors of the economy to adapt to this unusual environment. The rapid spread of the coronavirus pandemic and the massive shock of measures to control it have led the global economy to a severe contraction. The specificities and differences in the economic sectors predetermine the depth and strength of the pandemic impacts on the economy as a whole. Of particular importance for these differences is whether the relevant sector of the economy depends on the movement of people or information, with the sectors most affected being the sectors where the need for social isolation leads to a strong restriction of economic activity. At the same time, other sectors are benefiting from forced social isolation and the health crisis, although the cumulative effect of negative and positive impacts is clearly strongly negative for the economy as a whole. The pace of recovery and overcoming the pandemic effects depended to a large extent on government measures to support businesses and households, as well as on coordination at the pan-European (and globally) level to control the pandemic.

The first part presents the essence of the economic crisis caused by the pandemic – sudden and all-encompassing, affecting both supply and demand. The negative impact on the service sector is especially strong - tourism, transport, trade, restaurants. Bulgaria, as a small and open economy dependent on external demand, suffers from disruptions in supply chains, a decrease in exports and a decline in employment. The differences in the sensitivity of sectors to lockdown measures are examined and it is emphasized that the degree of digitalization has been decisive for adaptability.

A bibliometric analysis follows, which shows a significant increase in scientific publications related to economic support in the period after 2020. More than 3,000 publications on the key terms "economic relief" and "economic relief covid" were reported, with a sharp jump in interest observed after the start of the pandemic. This confirms the need for an interdisciplinary scientific approach in policy-making.

The third section analyses the impact of the pandemic on the Bulgarian economy using a sectoral approach. Empirical data on GDP decline, rising unemployment, consumption decline and structural problems in domestic demand are presented. The study found that in addition to the direct effects of lockdowns, there are also indirect effects through international trade and the contraction of foreign demand. In addition, the transformational nature of the crisis is also taken into account – accelerated digitalization, changes in consumer behaviour and the need for new skills in the labour market.

The fourth part of Chapter Two presents the international and Bulgarian experience in the implementation of economic support measures. Fiscal packages in developed economies and the opportunities of developing countries are compared. In Bulgaria, the main focus has been on preserving employment, subsidizing incomes and providing liquidity support through instruments such as 60/40, interest-free loans, deferred payments and social assistance for vulnerable groups. It is underlined that, despite the scope of the measures, administrative barriers and limited resources have hampered their full effectiveness.

The last two sections look at the types of post-crisis recovery – V-, U-, L- and W-shaped scenarios, and the real post-pandemic recovery of the economy in Bulgaria. The analysis shows that the recovery is uneven,

with some sectors registering growth, while others remain stagnant. Risks related to inflation, fiscal sustainability and the need for long-term investments in sustainable development, digitalization and human capital are indicated.

During the COVID-19 pandemic, the Balkan countries implemented a variety of measures to support the economy, aimed at mitigating the negative consequences for business, households and healthcare. The measures included financial incentives, social support, wage subsidies, tax and credit deferrals, as well as specific assistance programs for the most affected sectors such as tourism, trade and transport. Despite differences in health and economic support measures, the recovery almost everywhere takes a V-shape, as shown in Figure 3.



Figure 3 Dynamics of economic growth of the Balkan countries, % GDP (2019-2023) Eurostat

Figure 4 shows the deviations of the GDP of the Balkan countries compared to the average GDP growth in the European Union (EU-27) for the period 2019 to 2023.



Figure 4 Dynamics of the deviations of GDP of the Balkan countries compared to the average for the EU-27 (2019-2023) Eurostat, own calculations

The statistical analysis of the deviations of the GDP of the Balkan countries compared to the EU-27 average for the period 2019 to 2023 is presented in Table 4. This analysis helps to identify the economic stability, growth patterns and resilience of the Balkan countries compared to the EU average.

Table 4 Dimensions of the deviations of the GDP of the Balkan countries compared to the EU-27 average (2019-2023)

Country	Average deviation	Volatility (Standard Deviation)	Trend (Slope)
Bulgaria	1.28	0.75	-0.12
Greece	0.58	2.61	1.48
Croatia	2.22	3.35	1.10
Romania	1.04	1.08	0.18
Slovenia	1.14	1.13	0.02
Bosnia and	1.26	0.87	-0.10
Herzegovina			

Montenegro	1.52	5.81	-0.60
North Macedonia	0.34	1.63	-0.92
Albania	1.00	1.16	0.30
Serbia	2.24	1.97	-0.12
Turkey	3.56	3.52	-0.52
Kosovo	2.34	1.53	0.16

On the basis of the analysis, the following justified conclusions can be formulated. Bulgaria has demonstrated a consistently positive deviation from the average GDP growth in the European Union, indicating slightly stronger growth compared to the EU, although the figures decreased in 2022, suggesting a slowdown. Most countries showed significant negative deviations in 2020, reflecting the economic impact of COVID-19. Regarding the post-pandemic recovery, several countries, especially Croatia, Montenegro and Turkey, are demonstrating a strong recovery with positive deviations. Countries such as Montenegro and Turkey show significant fluctuations, which is an indicator of economic sensitivity to external factors or structural challenges.

Chapter Two examines the mechanisms and tools for dealing with the economic consequences of the COVID-19 pandemic, focusing on large-scale interventions of the state and international institutions. The analysis showed that the pandemic triggered one of the worst economic crises since World War II, leading to a global recession, deep imbalances in supply chains, rising unemployment and deterioration of social stability. In response to these challenges, governments around the world have taken complex economic measures, including fiscal stimulus, monetary interventions, business support and social programs.

The global economic response to the pandemic has been unprecedented in its scale. Developed economies such as the United States, the EU, Japan and the United Kingdom have implemented huge stimulus packages aimed at preventing the collapse of the financial system and helping households and businesses. In developing economies, despite constraints on public resources, significant social protection programs and incentives for industry have been introduced, albeit with less effect.

In Bulgaria, economic measures have focused on preserving employment, supporting micro, small and medium-sized enterprises and social protection of vulnerable groups. The analysis showed that while state intervention played an important role in limiting damage, resource constraints and administrative challenges limited the effectiveness of these measures.

Chapter Two also highlighted the importance of the structural changes in the economy caused by the pandemic. Among them, accelerated digitalization, changing consumer habits and the transformation of global supply chains stand out. While some sectors such as digital services and the pharmaceutical industry have grown, traditionally strong industries such as tourism, trade and transport have suffered serious losses.

Another key aspect in the analysis was the bibliometric review of scientific research dedicated to economic measures to tackle the pandemic. The data showed a significant increase in academic interest in the topics of state intervention, social assistance and economic sustainability. This confirms that the COVID-19 crisis has not only caused significant economic transformations, but has also led to profound changes in the understanding of the role of the state in the economy.

In conclusion, the analysis of the tools to tackle the pandemic crisis demonstrates that while the measures were inevitable and rather effective in the short term, the long-term effects on public finances, the labour market and the global economy will continue to be felt in the coming years. In this context, future policies should focus not only on stabilization, but also on sustainable recovery and adaptation of economies to the postpandemic social and economic environment.

CHAPTER THREE. EMPIRICAL STUDY OF THE CHALLENGES AND SUPPORT MEASURES FOR SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) DURING THE COVID-19 PANDEMIC

Chapter Three of the dissertation presents an empirical study of the impact of the COVID-19 pandemic on small and medium-sized enterprises (SMEs) in Bulgaria and an assessment of the effectiveness of the applied economic measures. The main objective of the analysis is to identify the key challenges faced by enterprises, as well as to assess the extent to which government intervention has supported the adaptation and recovery process.

The study is based on a survey among 278 representatives of SMEs covering different sectors – industry, services, trade. The methodology applies a structured questionnaire with multiple choice questions and a Likert scale. The study was carried out through online platforms and business networks, using the so-called. Snowball method for respondent selection. This allows entering hard-to-reach environments, which is especially important in conditions of pandemic restriction.

The main results reveal that over 66% of the surveyed enterprises have been negatively affected by the pandemic. Declining revenues, disrupted supply chains, and uncertainty in consumer demand are among the most frequently cited issues. Despite the government measures in place, 41% of respondents say that access to assistance has been hampered by administrative barriers, and 36% have not applied at all due to lack of information or non-compliance with requirements.

The analysis of the rate of operational recovery shows that 69% of companies have fully restored their activities, 23% – partially, and 8% remain below pre-pandemic levels. As the main recovery strategies, enterprises point to finding new customers and suppliers (about 50%), restructuring staff (27%), implementing digital solutions (19%) and optimizing operating costs.

The analysis of the survey data revealed important dependencies between the distribution of answers to the questions. The main focus is on the analysis and evaluation of relationships and dependencies, in which the characteristics of the variables are presented on weak scales – nominal or ordinal scale, using the chi-square method and subsequent calculation of correlation coefficients. The Chi-square test (Chi²) is a method for testing a hypothesis, on the basis of which the statistical significance of the studied dependencies between two categorical variables is assessed, the definitions of which are presented on a nominal scale. The verification of the hypotheses for statistical significance of the studied relationships and dependencies is at a significance level of 0.05 (5%), and the dependencies for which p-value values of < 0.05 are determined to be statistically significant:

• When studying the relationship between the size of the business (number of employees) and the industry in which the company operates, it was found that Chi² = 66.42, and the p-value < 0.00001, which is a sign that there is a statistically significant relationship between them and we have grounds to say that the different sizes of businesses are related to specific industries. For example, micro enterprises may be more common in the service sector, while medium-sized companies may be more active in manufacturing.

• Also statistically significant is the relationship between business size and lifespan (Chi² = 31.81, p-value < 0.00002), suggesting that smaller businesses are likely to be newer, while older companies tend to be larger.

• There is also a statistically significant relationship between the size of the business and the initial impact of COVID-19 ($Chi^2 = 11.99$, p-value = 0.0174), which means that businesses of different sizes have reacted differently to the pandemic and micro enterprises are likely to have been hit harder.

The correlation coefficients measure the strength of the relationship between the studied variables, and the Spearman correlation coefficient was used in this study. Based on the calculated Spearman correlation coefficients (ρ), the most significant dependencies are highlighted:

• How the crisis affected the customer base and the change in production volume ($\rho = 0.496$) – companies that lost customers also had significant production problems. It follows that the scale of production depends to a high extent on the established customer base and its restriction leads to a contraction of production, i.e. it relies on the secure

realization of the production. This conclusion is evidenced by considering the relationship between the change in production volume and the impact on the customer base ($\rho = 0.496$) with an expected reciprocal relationship, with the decline in production leading to the loss of customers and vice versa.

The correlation analysis revealed a strong correlation between the loss of customers and the declines in production volume, indicating that firms that have lost customers have also encountered significant difficulties in production. The issue of receiving state aid showed several moderate correlations. Companies that have experienced a more severe financial blow are more likely to receive assistance, and the same is true for those who have lost customers. In addition, declines in production and revenue are among the key factors for the higher likelihood of receiving support.

The conclusion of the correlation analysis is that the size of the business, the industry in which it operates, and the initial impact of the crisis are key factors for its financial health. State aid was an important element for businesses experiencing losses, but it was not the only determinant of their long-term survival. A conclusion that emerges at the end of these interconnections is the insufficient scale of state intervention during the pandemic – the lack of sufficiently focused measures, as well as too late and not reaching the SME sector.

Another analysis that investigates the correlation in the survey is the polychoric correlation (Fig. 5). Polychoric correlation is a statistical method used to calculate the relationship between two variables measured as ordinal but which are assumed to represent continuous latent variables. This method is especially applicable when working with survey data, Likert scales and other answers presented on the categorical scale, where the standard Pearson or Spearman correlation coefficients are not very suitable. (ΠΕΤΚΟΒ, 2006)

	1	2	5	6	7	8	9	10	11	13	14	15	16	17	19	20	21	22	24	25	29	31
1		-0.15531	-0.04274	0.0975	0.0756	0.1449	-0.0392	0.0881	-0.0381	0.0051	-0.1424	0.0638	-0.2485	-0.1421	-0.0815	-0.1012	-0.1463	-0.0552	-0.0800	-0.2406	-0.2354	-0.0594
2	-0.1553		0.00862	0.0297	-0.0493	-0.0025	0.0124	0.0024	-0.0893	0.0928	0.0379	0.0291	-0.0113	0.0621	-0.0908	-0.0328	0.1209	0.0796	0.0315	0.0010	0.1226	-0.0239
5	-0.0427	0.00862		0.0962	-0.0539	-0.0188	0.0060	0.0648	-0.0723	0.0288	0.0142	-0.0077	0.0132	0.0797	0.0115	-0.0191	0.0291	0.1344	-0.0612	0.1231	-0.0018	-0.1169
6	0.0975	0.02969	0.09624		-0.5291	0.5672	0.4124	0.4455	-0.7371	0.0259	-0.0281	0.2808	0.1455	-0.2423	-0.3453	-0.3685	-0.1257	0.0900	-0.2131	0.1526	-0.0405	-0.2931
7	0.0756	-0.04930	-0.05389	-0.5291		-0.4366	-0.4054	-0.3375	0.4381	0.0703	0.0567	-0.2502	-0.1760	0.1789	0.2828	0.2943	-0.0140	-0.0140	0.1820	-0.1752	-0.0057	0.1983
8	0.1449	-0.00253	-0.01879	0.5672	-0.4366		0.4407	0.4960	-0.5728	-0.0618	-0.2079	0.4425	0.0414	-0.3411	-0.4846	-0.4524	-0.1983	-0.1249	-0.2026	0.0821	-0.0611	-0.3628
9	-0.0392	0.01243	0.00601	0.4124	-0.4054	0.4407		0.4850	-0.4393	-0.1208	-0.0997	0.2589	0.2536	-0.2751	-0.3712	-0.3661	-0.0472	0.1074	-0.2181	0.1827	0.0025	-0.4354
10	0.0881	0.00244	0.06481	0.4455	-0.3375	0.4960	0.4850		-0.4540	0.1092	0.0019	0.3083	0.1417	-0.3019	-0.4156	-0.4428	-0.0342	0.1388	-0.1285	0.1355	-0.0160	-0.3553
11	-0.0381	-0.08927	-0.07227	-0.7371	0.4381	-0.5728	-0.4393	-0.4540		-0.0192	0.0765	-0.3121	-0.1634	0.2854	0.3772	0.3789	0.1025	-0.1156	0.2019	-0.1980	-0.0285	0.3219
13	0.0051	0.09283	0.02876	0.0259	0.0703	-0.0618	-0.1208	0.1092	-0.0192		0.4206	-0.0050	0.0325	-0.0193	-0.0808	-0.0349	0.1801	0.1311	0.2960	-0.0604	-0.0797	0.1007
14	-0.1424	0.03795	0.01416	-0.0281	0.0567	-0.2079	-0.0997	0.0019	0.0765	0.4206		0.0449	0.1336	0.1293	-0.0716	-0.0234	0.2256	0.1088	0.2928	-0.0504	-0.0110	0.1483
15	0.0638	0.02907	-0.00772	0.2808	-0.2502	0.4425	0.2589	0.3083	-0.3121	-0.0050	0.0449		0.0999	-0.2357	-0.3070	-0.2157	-0.1222	0.0782	-0.2007	0.0944	-0.0393	-0.1882
16	-0.2485	-0.01129	0.01319	0.1455	-0.1760	0.0414	0.2536	0.1417	-0.1634	0.0325	0.1336	0.0999		-0.0055	-0.0275	-0.0770	0.0753	0.1782	-0.0260	0.1780	0.0906	-0.0976
17	-0.1421	0.06206	0.07971	-0.2423	0.1789	-0.3411	-0.2751	-0.3019	0.2854	-0.0193	0.1293	-0.2357	-0.0055		0.5035	0.2726	0.1578	-0.0820	0.1625	0.0439	0.1882	0.4689
19	-0.0815	-0.09083	0.01152	-0.3453	0.2828	-0.4846	-0.3712	-0.4156	0.3772	-0.0808	-0.0716	-0.3070	-0.0275	0.5035		0.5055	0.1528	-0.1050	0.0751	-0.0200	0.1895	0.4240
20	-0.1012	-0.03276	-0.01906	-0.3685	0.2943	-0.4524	-0.3661	-0.4428	0.3789	-0.0349	-0.0234	-0.2157	-0.0770	0.2726	0.5055		0.0793	-0.0823	0.0732	0.0496	0.1631	0.2741
21	-0.1463	0.12089	0.02905	-0.1257	-0.0140	-0.1983	-0.0472	-0.0342	0.1025	0.1801	0.2256	-0.1222	0.0753	0.1578	0.1528	0.0793		0.0646	0.1795	0.1344	0.1495	0.2010
22	-0.0552	0.07964	0.13439	0.0900	-0.0140	-0.1249	0.1074	0.1388	-0.1156	0.1311	0.1088	0.0782	0.1782	-0.0820	-0.1050	-0.0823	0.0646		-0.0032	0.0290	-0.0274	-0.0828
24	-0.0800	0.03154	-0.06123	-0.2131	0.1820	-0.2026	-0.2181	-0.1285	0.2019	0.2960	0.2928	-0.2007	-0.0260	0.1625	0.0751	0.0732	0.1795	-0.0032		-0.0281	0.0322	0.1751
25	-0.2406	0.00103	0.12310	0.1526	-0.1752	0.0821	0.1827	0.1355	-0.1980	-0.0604	-0.0504	0.0944	0.1780	0.0439	-0.0200	0.0496	0.1344	0.0290	-0.0281		0.5801	-0.0019
29	-0.2354	0.12262	-0.00182	-0.0405	-0.0057	-0.0611	0.0025	-0.0160	-0.0285	-0.0797	-0.0110	-0.0393	0.0906	0.1882	0.1895	0.1631	0.1495	-0.0274	0.0322	0.5801		0.2053
31	-0.0594	-0.02393	-0.11689	-0.2931	0.1983	-0.3628	-0.4354	-0.3553	0.3219	0.1007	0.1483	-0.1882	-0.0976	0.4689	0.4240	0.2741	0.2010	-0.0828	0.1751	-0.0019	0.2053	

Figure 5 Polychoric correlation matrix - dependencies between key questions in the survey

The analysis of correlation relationships uses the polychoric correlation matrix, which is particularly relevant in the current empirical study in the context of the impact of COVID-19 on business, in which survey data is processed. The current analysis of polychoric correlations between the different variables of the survey reveals both strong and surprisingly weak correlations between key economic factors. The analysis of strong and weak correlations reveals dependencies that confirm or reject preconceived hypotheses about the impact of the crisis on business. Thus, despite the expectations for a significant correlation between some of the studied aspects, the data demonstrate cases of weak or almost non-existent relationship, which raises questions about the affected sectors and companies and the support tools that form these dependencies.

There is a strong negative correlation between a significant decrease in business activity and the loss of customers (r = -0.737). Data shows that companies that were forced to limit or cease operations due to the pandemic suffered serious losses of customers and contracts. This confirms the general economic logic that a decrease in operational capacity leads to a drop in demand and a loss of market positions. The link between supply chain disruptions and the decrease in production volume is defined as significant (r = -0.529) and reaffirms the economic logic. The data demonstrate that SMEs that have encountered difficulties in supplying resources have been forced to reduce their production capacity. This is an expected consequence of the global logistical constraints caused by the pandemic.

Between the receipt of State aid and the decrease in revenue, the relationship is weak (r = -0.240). This correlation shows that the enterprises that received state support were among those with the largest financial losses. This can be interpreted as an indicator of the effectiveness of economic support programs aimed at the most affected businesses.

The expected link between state support and the extent of financial losses is confirmed. There is a strong negative correlation (-0.529) between the receipt of state aid and the degree of business losses. This confirms the expectation that the enterprises that suffered the most serious financial losses were the main beneficiaries of government support measures. The outcome supports the effectiveness of the targeted distribution of aid to the most vulnerable businesses.

The relationship between the decrease in activity and the loss of customers is expected. A significant positive correlation (0.567) is present between the restriction of business activity and the loss of customers and contracts. This confirms the logical assumption that SMEs that have been forced to reduce their operations have lost part of their customer base.

Another relationship studied is between supply chain problems and production activity. The significant negative correlation (-0.529) between these two variables is indicative that companies experiencing problems with the supply of materials have suffered a decline in their production, which is quite expected given the global logistical difficulties during the pandemic.

The analysis also revealed cases of unexpectedly low correlation between the studied factor and performance variables, which were initially assumed to be related. There is no link between the industrial sector and the receipt of State aid (r = 0.001). This result shows that the sector in which an undertaking operates was not a determining factor in its access to state financial support. The expectations were in advance that the more affected sectors (e.g. tourism and restaurants) would be a priority for the support measures, but the data do not support this hypothesis. No relationship has been proven between business life expectancy and recovery expectations (r = -0.0018). It is possible to expect that longstanding companies will demonstrate greater confidence in their future because of the experience gained and sustainability. In addition, firms with a longer history are expected to have larger capital buffers. However, data shows that both new and older firms have similar expectations for recovery, which may reflect the high degree of economic uncertainty imposed by the crisis.

There is no correlation between State aid and the sector of activity (r = 0.001). This dependence is especially surprising because government programs usually target certain industries that are most affected by the crisis. The expectations were that sectors such as tourism, hospitality and restaurants would be more strongly supported compared to industries that were not so affected. The absence of a statistically significant link shows that the distribution of State aid was not selective by industry, which raises questions about the criteria for granting financial support. The results suggest that the distribution of aid was either uniform across all sectors or was influenced by other factors, such as administrative procedures or businesses' access to information on existing measures.

The results of the analysis also show that while the pandemic has affected a significant part of businesses, its impact has not been the same in all economic sectors and regions. Companies with greater business constraints have lost more customers and suffered greater financial losses, highlighting the importance of operational flexibility and the ability to adapt to crisis conditions. Supply chain issues have had a significant effect on production processes, leading to a decline in production and revenue for businesses.

The state support was designed with the intention of targeting the most affected firms, but its distribution does not indicate sector-specific dependence, which raises questions about the criteria for granting the aid. The zero correlation between the business's long-term experience and its expectations for recovery shows that uncertainty has affected all enterprises, regardless of their experience and resilience.

The current results suggest the need for a more detailed analysis of economic recovery policies, with an emphasis on a fairer and more focused targeting of state support to the most vulnerable sectors and businesses.

Another difference from the initial hypotheses and expectations is the weak link between digitalization and financial results. The correlation (-0.079) between digital investments and revenue declines was assumed to be significant. The preliminary hypothesis was that companies that invested in digitalization were more successful in their adaptation and, accordingly, suffered a smaller drop in revenue. However, the weak level of correlation suggests that digitalization alone was not enough to prevent losses.

The results of the analysis show a weak correlation (-0.146) between finding new suppliers and business stability, i.e. no significant correlation between developing new relationships with suppliers and reducing revenues is not proven. It would be logical to expect that companies that have managed to find new suppliers have coped better with the crisis. However, the data does not show a significant link, which means that the change in suppliers was not a sufficient and determining factor to stabilize revenue.

Correlation polychoric analysis highly confirms the expected relationships between business activity, financial losses and the customer base. Companies that have reduced their operations have suffered significant losses, and supply chain problems have led to a decline in production activity. However, the lack of a link between the industrial sector and the receipt of state aid is very surprising and raises questions about the criteria for distributing support. This finding suggests the need to refine support programs to ensure that they reach the industries most in need.

The weak link between digitalization and financial performance shows that business adaptation requires a more complex approach. While digitalization may have helped some companies, it was not a decisive factor in avoiding losses. The duration of the business has not had an impact on confidence in the recovery, which indicates peculiarities in the management of SMEs. This highlights that the uncertainty caused by the pandemic has affected both new and long-standing businesses. Much more targeted business support policies are needed, taking into account both the specifics of the economic sector and the various factors affecting the sustainability of enterprises.

In summary, Chapter Three shows that while some SMEs have benefited from State aid, the majority of firms remain outside its scope due to various constraints and lack of institutional capacity. The findings highlight the need for more flexible and targeted policies that take into account the differences between businesses. The empirical analysis contributes to the formulation of practical recommendations to the state administration with a view to future crisis interventions and sustainable economic development.

III. Guidelines for future research on the topic of the dissertation

As guidelines for future research work on the topic, the following can be indicated:

- 1. Analysis of the medium- and long-term effects of the support measures applied during the pandemic on the economic sustainability, employment, competitiveness and innovation activity of SMEs in Bulgaria.
- Development of econometric and simulation models for assessing the resilience of public finances to future systemic shocks as a tool for strategic planning of interventions and creation of risk buffers.
- 3. Comparative studies between EU countries comparison of Bulgarian anti-crisis policies with those of other EU Member States to identify good practices and identification of structural weaknesses in the national approach.
- 4. Explore the role of local authorities and regional disparities in access to support. Territorial inequalities in the implementation of

measures (by districts and municipalities) should be analysed for more effective territorial targeting of future policies.

IV. Reference for the scientific and scientific-applied contributions in the dissertation

Before anything else. Formulation of a conceptual theoretical model for state intervention in the economy in crisis states, based on an interdisciplinary synthesis between interventionist approaches, neoliberal doctrine and the principles of social market economy. The model offers a normative and analytical framework for assessing the role of the state by identifying mechanisms for correcting market imperfections, overcoming socio-economic inequalities and ensuring macroeconomic stability in conditions of systemic shocks.

Second. Derive a bibliometric profile of the concept of "economic support" in the scientific literature using the analysis of the Scopus database and the VOSviewer software. The analysis reveals dominant research areas, thematic clusters and leading authors, thus positioning the dissertation research within the global scientific debate and identifying gaps in the literature that the present work fills.

Third. Identification and taxonomy of the types of state intervention depending on economic models and goods, including public, private, quasi-public and club goods, applying the theoretical framework for the analysis of interventions in the context of the COVID-19 pandemic.

Fourth. Empirical study of the effectiveness of economic measures in support of SMEs in Bulgaria during the COVID-19 pandemic, through a survey and statistical analysis, which justifies an evaluation framework for the effectiveness, accessibility and perceived adequacy of the implemented economic measures. The results obtained contribute to the empirical validation of policies to support SMEs in times of crisis and allow for the formulation of proposals to increase their effectiveness and scope. Fifth. Development of a regression analytical model to study the dependencies between Bulgaria's public expenditure and the European Union (EU) averages in the period 2000–2022, by applying modern quantitative methods and using data from the World Bank to identify dependencies and identify differences between national and supranational fiscal policies in the context of the pandemic.

Sixth. Formulation of recommendations for optimization of future economic policies in crises, based on interdisciplinary analysis of normative documents, empirical data and international comparative experience. The recommendations address the need for higher adaptability of measures, reduction of administrative barriers, prioritization of support to vulnerable businesses and its integration into long-term sustainable development frameworks.

V. List of publications of the PhD student

- Mladenov, S. (2021). IMPACT OF THE COVID-19 PANDEMIC ON SECTORS IN THE COUNTRY'S ECONOMY. Annual almanac "Scientific Research of PhD Students". Issue XIV, Book 17. Svishtov: Academic Publishing House "Tsenov". Retrieved from https://www2.unisvishtov.bg/almanahnid/issue.asp?issue=451
- 2) Mladenov, S. (2023). DISRUPTIONS IN FOOD SUPPLY CHAINS DURING THE PANDEMIC – IMPACT ON THE ECONOMY. University Scientific Conference "LOGISTICS AND SOCIAL SYSTEMS"-2023. Veliko Tarnovo: Vasil Levski National Military University.
- 3) Mladenov, S. (2024). ECONOMIC RATIONALE FOR STATE INTERVENTION: INTERVENTION MODELS AND COVID-19. Problems and Challenges to Economic Science and Education in the XXI Century (pp. 159-168). Svishtov: Academic Publishing House "Tsenov".

VI. Reference for compliance with the national requirements under the Regulations for the implementation of the Academic Staff Development Act in the Republic of Bulgaria

Article: 1 pc. Scientific reports: 2 pcs. Minimum number of points: 30

Achieved number of points under Indicator 7 (Articles and reports published in non-refereed journals with scientific peer review or published in edited collective volumes), according to the Indicator 7. Appendix to Art. 1a, para. 1 of the Regulations for the Implementation of the Law on the Development of the Scientific Staff in the Republic of Bulgaria with Minimum National Requirements for the Scientific, Teaching and/or Artistic or Sports Activities of the Candidates for Acquiring a Scientific Degree and for Occupying the Academic Positions of Chief Assistant, Associate Professor and Professor in Scientific Fields and/or Professional Fields in Field 3. Social, Economic and Legal Sciences, Professional field 3.1. Sociology, Anthropology and Cultural Sciences, 3.2. Psychology, 3.3. Political Science, 3.4. Social Activities, 3.5. Public Communications and Information Sciences, 3.6. Law, 3.7. Administration and Management, 3.8. Economics, 3.9. Tourism

10+20=30 pts.

VII. Declaration of originality of the dissertation

The dissertation in the volume of 256 pages under the title: "Economic measures in Bulgaria during a pandemic - financial and social aspects" is an authentic development and represents the author's own scientific research. It uses author's ideas, texts, graphs, schemes, tables and formulas, complying with all current requirements of the Copyright and Related Rights Act by properly quoting and referring to someone else's author's thought, as well as data, including:

- 1. The results achieved in the dissertation and the outputs are original and are not borrowed from research and publications in which the author has no participation.
- 2. The information presented by the author in the form of copies of documents and publications, personally compiled references, etc. corresponds to the objective truth.
- 3. Scientific results that have been obtained, described and/or published by other authors are duly and thoroughly cited in the bibliography.

Ph.D. student Stanislav Chavdarov Mladenov