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**ABSTRACT**

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

**"RESTRUCTURING, CONSOLIDATION AND  
COMPETITION ON THE BULGARIAN BANKING  
MARKET"**

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The materials are available at the “Doctoral and Academic Development” Department.

## **CONTENT OF THE ABSTRACT**

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## **I. General characteristics of the dissertation**

**1. The relevance of the topic** for the study of the restructuring, consolidation and competition on the Bulgarian banking market is determined by the growing dynamics in the processes in recent years and by the emerging trends. They are caused by changes in the economic status, due to circumstances such as: the global financial and economic crisis, the consequences of adverse developments for some banking institutions, due to irrational and short-sighted decision-making, changes in consumer attitudes to banking products and services, changes in macroeconomic and banking regulatory measures, etc.

### **2. Object and subject of the research**

Based on the illustrated topicality, the Bulgarian banking market is determined as the **object** of the dissertation. The **subject** of the study are the problems of restructuring, consolidation and competition of the Bulgarian banking market in the light of increasing regulatory requirements.

### **3. Research thesis**

**The leading research thesis** in the dissertation is related to the statement that the Bulgarian banking market is developing in conditions of interbank competition, requiring institutional restructuring and consolidation in order to achieve compliance with the evolving regulatory framework and supervisory mechanisms of the Central bank, prudential measures and targeted indicators of capital, risk, profitability and return.

### **4. Purpose of the dissertation**

Based on the thus defined object, subject and thesis, the dissertation aims to identify the main driving trends and evidence for the Bulgarian banking market through research of theoretical aspects and analysis of practice in support of confirming the relationship between restructuring and consolidation to achieve compliance with evolving regulatory requirements in an ecosystem of intensified interbank competition.

### **5. Tasks and methodology of the research**

Following the formulated goal, object, subject and thesis, the following **tasks** can be specified and a relevant **structure of the dissertation** is developed:

**First.** To conduct a critical review of the theory in the field of bank consolidation and restructuring and to shed light onto the basic theoretical meanings of the concepts.

**Second.** To develop an ex post analysis of the interbank competition on the Bulgarian banking market for the period of the emerging banking crisis in the

country in 2014 by deriving correlation and determination links between the measures of the banking system and macroeconomic development indicators.

**Third.** To study empirically the effects of the restructuring and consolidation of commercial banks in Bulgaria and to draw conclusions about the development of the Bulgarian banking system.

In order to achieve the above tasks, publicly available data from the official information databases were used and the following **methods and approaches for analysis and evaluation** were applied: theoretical analysis, synthesis and summarization of information, deductive and inductive methods for reasoning, systematization, descriptive statistics, vector -verbal analysis, statistical application of rank classification.

## **6. Scope of the study**

For the purposes of constructing a logically justified and relevant study of the problem, the following **limiting parameters** are set:

- in-depth study of the theoretical aspects and normative regulation, covering the restructuring, consolidation and competition of banks;

- due to the lack of clearly defined concepts of consolidation and restructuring in the banking industry in Europe and Bulgaria, periods from the end of the XX century and the beginning of the XXI century are reviewed in theoretical aspect - on a global, European and national scale;

- due to the confidentiality of bank data and its scarce amount, the indicators used are derived on a quarterly basis for the period from January 2014 to December 2020.

**Out of the scope of this dissertation are the following:**

- time intervals before 2014, due to changes in the current economic situation, which require a study of banking competition in the selected time period;
- time intervals after January 2021, due to a deficit of final data at the time of preparation of the dissertation;
- the use of non-structural indicators of market concentration - the Iwata model, the Bresnahan-Lau model, and the Panzar-Ross approach, due to the lack of comprehensive data input for their correct calculation, as well as due to contradictory results observed in a number of studies.

## **7. Structure of the research**

The dissertation has a total volume of 210 standard pages, structured in three chapters, introduction and conclusion as follows:

## **CONTENTS**

### **INTRODUCTION**

#### **CHAPTER ONE. THEORETICAL FORMULATION AND OVERVIEW OF THE CONCEPTS IN THE FIELD OF BANK CONSOLIDATION, RESTRUCTURING AND COMPETITION**

1. Theoretical statements about the relationship between financial stability and restructuring, competition and consolidation in the banking system
    - 1.1. General characteristics of restructuring, consolidation and competition
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  2. Theoretical and empirical research in the field of bank consolidation, restructuring and competition
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  3. Regulatory norms and legal framework for implementation and control of banking restructuring, consolidation and competition
    - 3.1 Legislative framework for achieving control of banking restructuring, consolidation and competition in the Member States of the European Union
    - 3.2 Legislation and regulations in use in the Republic of Bulgaria
- Conclusions from Chapter One

#### **CHAPTER TWO. THE BULGARIAN BANKING MARKET IN THE CONDITIONS OF INTERBANK COMPETITION**

1. Analytical indicators of the banking market and its processes
  - 1.1. Quantitative and qualitative indicators of the banking market and the poignant macroeconomic ecosystem
  - 1.2. Statistical assessment of the impact of factors in the banking market and interbank competition
  - 1.3. Ranking of commercial banks in Bulgaria based on the CAMEL assessment methodology



2. Ex-post analysis and development of banks in Bulgaria for the period of EU membership

2.1. Study of the influence of foreign banks on the banking industry in Bulgaria

2.2. Restructuring and consolidation of banks in Bulgaria - causes and results for the banking system

2.3. Banking competition in Bulgaria, based on the offered products and services

3. Digital financial services - the modern competitor in the traditional banking market

Conclusions from Chapter Two

## **CHAPTER THREE. EMPIRICAL INVESTIGATION OF THE ECOSYSTEM AND PROCESSES FOR CONSOLIDATION AND RESTRUCTURING OF BANKS IN BULGARIA**

1. Analysis and assessment of the impact of economic processes on the Bulgarian banking environment

1.1. Assessment of the macroeconomic and financial ecosystem, affecting the Bulgarian banking market

1.2. Analysis of the quantitative indicators in the Bulgarian banking market

2. Empirical study of the relationships between the main banking measures and macroeconomic development index

2.1. Study of the relationships by examining the level of qualitative correlation

2.2. Analysis of the relationships by examining the level of the coefficient of certainty (determination)

3. The effects of the restructuring and consolidation of commercial banks in Bulgaria - an approach based on the CAMEL system

Conclusions from Chapter Three

Summary

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Bibliography

List of publications related to the dissertation

Review for compliance with the national requirements under the Regulations for application of the Law for development of the academic staff in the Republic of Bulgaria

Declaration of originality and authenticity of the dissertation

## **8. Applicability of the research results**

The theoretical considerations and conclusions developed in the dissertation, as well as the empirical results of the research aim to support the notion that the Bulgarian banking market is developing in conditions of interbank competition, requiring institutional restructuring and consolidation in order to comply with the evolving regulatory framework and supervisory mechanisms of the Central bank, prudential measures and targeted indicators of capital, risk, profitability and return. On this basis, the proposed model linked to the CAMEL system is a useful guide and tool for any entity wishing to draw the differences in the factual and hypothetical division of the banks. This is achieved by analysing the financial stability of banks according to the CAMEL system. Deriving a parallel distribution of banks from the Bulgarian banking system to the total ranking based on CAMEL and the distribution from the Bulgarian National Bank in 2020 allows to assess and analyze trends in banks, the need and effectiveness of restructuring, consolidation and maintaining competition of banks in Bulgaria. The methodology and analysis used can contribute to achieving stability of the financial system and promote a core policy of maintaining a "healthy" competitive ecosystem, yet can also be a starting point for consolidation in the banking industry through the application of prudent mergers and acquisitions. Last but not least, the literary and information sources used in the dissertation, the developed and adapted econometric models, the studied and mastered approaches for research and presentation of knowledge, are extremely

useful for the author in the practical aspect of his work in the economic sphere and also improve his competencies and working capacity, as well as his opportunities for future career development.

## **II. Main content of the dissertation**

### **CHAPTER ONE. THEORETICAL FORMULATION AND OVERVIEW OF THE CONCEPTS IN THE FIELD OF BANK CONSOLIDATION, RESTRUCTURING AND COMPETITION**

The main idea, which is investigated in Chapter One, corresponds to the title and is related to the study of theoretical formulations and review of concepts in the field of banking consolidation, restructuring and competition. Based on this, in the relevant paragraphs of the study, the following aspects of bank consolidation, restructuring and competition are examined:

**First.** Theoretical statements about the relationship between financial stability and restructuring, competition and consolidation in the banking system

**Second.** Theoretical and empirical research in the field of bank consolidation, restructuring and competition

**Third.** Regulatory norms and legislation for implementation and control of banking restructuring, consolidation and competition

Referring to the extensive theoretical review of the concepts of the relationship between financial stability and restructuring, competition and consolidation in the banking system, the review of theoretical and empirical research in the field and the analysis of regulatory norms and legislation for implementation

and control of restructuring processes in the European Union. Union and Bulgaria could draw the following more important theoretical conclusions and findings:

Based on the theoretical review and the derived definitions, factors, objectives, conditions, types, advantages and challenges related to restructuring, consolidation and competition, the following summarized definitions can be derived on the key concepts as follows:

- restructuring in the banking sector is a process of strategic reorganization of the bank, based on division, merger or acquisition, corresponding to the normative specifics and standards in order to grow the bank and confront the economic challenges;

- consolidation can be described as a regrouping of larger banks in a smaller number in order to strike a balance between global advantages and sensitivity to the local banking market;

- banking competition is a state of rivalry between the objects in a banking system through the application of market-oriented, financial and marketing methods in order to boost banking wealth and improve the distribution and production efficiency in the provision of financial services.

The large-scale global analysis of theoretical and empirical research focused on consolidation, restructuring and competition in the banking sector brings to the forefront the diverse variations of process research. It is proven that the connection between the consolidation, competition and the restructuring of banks interacts with the macroeconomic, regulatory and institutional framework of the state to a significant degree. In order to achieve stability in the financial system, the main policy must be to promote a competitive environment, but this also needs to be a starting point for consolidation in the banking industry through the application of a prudent policy in regards to mergers and acquisitions. Among the most significant determinants that are derived as the main factors, driving banking processes are the

following important macroeconomic and banking indicators: gross domestic product, financial stability and solvency of banks, deposit and interest rates, the size of bank assets, the amount of bank capital, the amount of loans and deposits, levels of profitability, etc.

Existing regulatory norms and legal directives for the implementation and control of banking restructuring, consolidation and fair competition are an important aspect of national and European banking stability. When undertaking restructuring and consolidation processes, it is necessary to comply with European regulatory frameworks: the Unified Restructuring Mechanism, Basel III, the Guidelines for Supervision of Consolidation in the Banking Sector, the Regulation on Merger Control, Directive 2014/59/EU. At the national level, a good knowledge of the essential aspects of: the Commercial Law, the Law on Protection of Competition, the Law on Credit Institutions, the Law on Rehabilitation and Restructuring of Credit Institutions and Investment Intermediaries and the Bank Deposit Guarantee Fund could have a favorable effect on the banking efficiency of the country.

## **CHAPTER TWO. THE BULGARIAN BANKING MARKET IN THE CONDITIONS OF INTERBANK COMPETITION**

Chapter two of the study delves into the review of the aspects and problems of the Bulgarian banking market in the conditions of interbank competition. The arguments are structured in the relevant paragraphs as follows:

**First.** Analytical indicators of the banking market and the processes in it

**Second.** Ex-post analysis and development of banks in Bulgaria for the period of EU membership

**Third.** Digital financial services - the modern competitor in the traditional banking market

Considering the theoretical formulations set out in Chapter Two, related to the theoretical study of the analytical measures of the banking market and its processes and the in-depth focus on the Bulgarian banking market in the conditions of interbank competition, the following significant conclusions can be drawn:

Factors influencing the main indicators, considered as generators of banking processes include base interest rates, annual percentage change in gross domestic product (GDP), imports, exports, long-term interest rate to assess the degree of convergence, consumer price index in %, HICP, exchange rate in US dollars, government deficit/surplus, government revenues, government expenditures. From the point of view of measuring the levels of the interaction between the indicators, the assessment of the concentration in the market structure is achieved through the Herfindahl-Hirschman index. Deriving the relationships between macroeconomic indicators and key banking measures through the correlation coefficients of Pearson and Spearman have statistical data value for the processes in the banking structure. The application of quantitative techniques with analytical value based on the parameters of the CAMEL framework is essential for measuring the financial condition of the bank and the banking system by evaluating capital adequacy, asset quality, management, efficiency and liquidity. Based on the application of Ex-post analysis of the development of banks in Bulgaria for the period of EU membership, there is a different type and volume of banks in the Bulgarian banking structure, offering a range of banking products and services. Moreover, there is a successful integration of European practices that stimulate banking competition in the country. This places Bulgaria amongst the leading countries in Eastern Europe with a developed product portfolio and efficiency of the financial system. The heightened price sensitivity on the part of the banks' clients dictates the variety of products and

services, which stimulates the competition of the banks in Bulgaria. More specifically, competition between banks is focused on the most widely offered products in Bulgarian banking - "current account", "savings account" and "debit cards" offered by 19 banks in the country, followed by "deposit accounts" and "consumer loans" offered by 18 banking institutions in the country. Other widely available products are "credit cards" and "mortgage loans". Taking this into consideration, the most common product in 2020 is retail banking, which is offered as a service by 21 banks. The development of modern technologies requires the introduction of innovations and digitalization of financial services as a modern competitor in the traditional banking market. Recent years have been of vital importance to the development of digital financial services in Bulgaria. There is a gradual modernization of traditional banks into digital and transition to fintech systems in recent years. The leading banking institutions operating in Bulgaria successfully employ fintech products. This envisages improving the efficiency of the services, helping to overcome the lack of information, providing easy-to-use access and higher productivity of services in Bulgarian banks, which in turn stimulates competition.

### **CHAPTER THREE. EMPIRICAL INVESTIGATION OF THE ECOSYSTEM AND PROCESSES FOR CONSOLIDATION AND RESTRUCTURING OF BANKS IN BULGARIA**

Chapter three presents the results of the empirical part of the study of the ecosystem and the processes of consolidation and restructuring of banks in Bulgaria. The third part is divided into the following research problems:

**First.** Analysis and assessment of the impact of economic processes on the Bulgarian banking environment.

**Second.** Empirical study of the relationships between the main banking indexes and macroeconomic development indicators.

**Third.** The effects of the restructuring and consolidation of commercial banks in Bulgaria - an approach based on the CAMEL system.

The empirical study of the ecosystem and the processes of consolidation and restructuring of banks in Bulgaria, the relationships between the main banking indexes and macroeconomic indicators for development and the study of the effects of restructuring and consolidation of commercial banks in Bulgaria based on the CAMEL system lead to the following important conclusions and findings:

The analysis and assessment of the macroeconomic and financial ecosystem, which has an impact on the Bulgarian banking market, shows that imports and exports are among the indicators that clearly illustrate the problems and advantages of global trade, which directly reflects on the banking sector; the deterioration of foreign trade processes, as well as the overall economic situation have their impact on trends in consumer prices and the undertaking of processes in the banking sector; the long-term interest rate for assessing the degree of convergence shows the relatively even dynamics of the indicator for the period under review and is indicative of the crisis and recession processes in the country's economy; the change in the exchange rate of the Bulgarian lev to the US dollar demonstrates the stability of the currency, as the strong economic rebound is a consequence of global changes and inflation rates.

Based on the analysis of the qualitative indexes in the Bulgarian banking market for the period 2014-2020, which have a representative function for assessing their state, the main conclusions are: there is a significant collapse in deposits and loans in the end of 2014, caused by the dwindling in consumer confidence in the Bulgarian banking sector due to escalating financial uncertainty in one of the leading banks in the country – CCB (Corporate Commercial Bank). The growth of loans



after 2016 is indicative of the return of consumer confidence in credit products in the country. The ECB's assessment of bank loans portrays a significantly stronger influence on households compared to the corporate sector, as evidenced by the significant growth in household loans after 4/2019. One can exhibit the significant impact of COVID-19 on the monthly growth of loans in the private sector and the growth of loans to households, where after 01.2020 there is a decrease in loans in percentage terms. One of the main factors influencing the demand and supply of loans and deposits in a country is the ratio of equity to the amount of assets. The adopted in 2020 "Measures to further reinforce the capital and liquidity of banks", aimed at preserving the capital positions of banks in the country due to the economic downturn caused by COVID-19, lead to the relative preservation of the capital of the banks of the three groups and the banking system as a whole. The main factor for the significant increase in the assets of the banks of the first group are the processes of consolidation and absorption of the smaller banks by the large banks of the first group, including the merger of UBB and CIBANK, First Investment Bank and Postbank (Profit.bg, 2019).

Given the application of the Herfindahl-Hirschman index in 2020 on the entire banking system in terms of assets, loans and deposits, it turns out that it is in a state of non-concentrated industry and there is an opportunity to achieve the goals of the banks part of the system; the banks of the first and second groups are non-concentrated, while the banks of the third group are highly competitive; the competition in terms of loans is most noticeable, with the first group of banks dominating. The observed competition in the Bulgarian banking market is considered fair and loyal, allowing for the efficient operation of the banks of the three groups without them having a negative impact on each other.

The performed correlation analysis leads to the conclusion that the strongest positive influence on profit, equity and assets is observed as follows:

- in the overall banking system - between government revenues and equity and assets, imports and bank assets, exports and bank assets, the consumer price index and bank assets, the HICP and bank assets;

- for banks of the first group - equity and government expenditures and assets and government expenditures;

- for the banks of the second group the correlation between the assets and the import, the export, the consumer price index and the HICP is the strongest;

- for the banks of the third group-between equity and exports in the country, the consumer price index, the HICP and government revenues.

Considering this, it can be said that the abovementioned can be considered as driving factors of key dimensions in the banking system, which can influence corporate decisions for the implementation of restructuring and consolidation of banks. As a result of the assessment and analysis of the distinctness between the key banking indexes and the macroeconomic indicators for development, the main conclusions that can be drawn are the following most significant determinants:

- in the overall banking system 86.48% is the impact of the long-term interest rate for assessing the degree of convergence on the size of assets, and 79.12% is its impact on equity.

- for banks in the first group, 48.39% of the amount of assets can be explained by government expenditures, and 46.40% is their impact on equity.

- in the second group of banks the highest percentage of factor variables relative to the size of assets belongs to imports (43.33%), exports (43.84%), the long-term interest rate for assessing the degree of convergence (62.17%), the consumer price index (54.77%) and the HICP (62.94%).

- in the case of banks of the third group, the sole strong factor influencing the bank's indexes, and in particular equity, is the long-term interest rate for assessing the degree of convergence, which explains 66.63% of the change in equity.

Referring to the analysis of the effects of the restructuring and consolidation of commercial banks in Bulgaria, building upon an approach based on the indicators of the CAMEL system, there is a partial discrepancy between the positioning of banks relative to the BNB (Bulgarian National Bank) system (Table 1).

*Table 1. Comparison of the CAMEL ranking and the BNB ranking of banks operating in Bulgaria in 2020*

<b>CAMEL 2020 г.</b>		<b>BNB 2020 г.</b>	
<b>Rank</b>	<b>Group 1</b>	<b>Rank</b>	<b>First group</b>
<b>1</b>	DSK Bank AD	<b>1</b>	UniCredit Bulbank AD
<b>2</b>	TBI Bank EAD	<b>2</b>	DSK Bank AD
<b>3</b>	Eurobank Bulgaria AD	<b>3</b>	United Bulgarian Bank AD
<b>4.5</b>	Raiffeisenbank (Bulgaria) EAD	<b>4</b>	Eurobank Bulgaria AD
<b>4.5</b>	United Bulgarian Bank AD	<b>5</b>	First Investment Bank AD
<b>CAMEL 2020 г.</b>		<b>BNB 2020 г.</b>	
<b>Rank</b>	<b>Group 2</b>	<b>Rank</b>	<b>Second group</b>
<b>6</b>	BNP Paribas Personal Finance S.A. - Bulgaria branch	<b>6</b>	Raiffeisenbank (Bulgaria) EAD
<b>7</b>	ProCredit Bank (Bulgaria) EAD	<b>7</b>	Central Cooperative Bank AD
<b>8</b>	First Investment Bank AD	<b>8</b>	Bulgarian Development Bank AD
<b>9</b>	Bulgarian Development Bank AD	<b>9</b>	Alianz Bank Bulgaria AD
<b>10</b>	Bulgarian American Credit Bank AD	<b>10</b>	ProCredit Bank (Bulgaria) EAD
<b>11</b>	Tokuda Bank AD	<b>11</b>	Investbank
<b>12</b>	UniCredit Bulbank AD	<b>12</b>	Municipal Bank AD
		<b>13</b>	Bulgarian American Credit Bank AD
		<b>14</b>	International Asset Bank AD
		<b>15</b>	Commerce Bank D AD
		<b>16</b>	TBI Bank EAD
		<b>17</b>	Teksim Bank AD
		<b>18</b>	Tokuda Bank AD
<b>CAMEL 2020 г.</b>		<b>BNB 2020 г.</b>	
<b>Rank</b>	<b>Group 3</b>	<b>Rank</b>	<b>Third group</b>
<b>13</b>	Commerce Bank D AD	<b>19</b>	Citybank Europe, Bulgaria branch
<b>14</b>	ING Wholesale Banking, Sofia Branch	<b>20</b>	ING Wholesale Banking, Sofia Branch

<b>CAMEL 2020 г.</b>		<b>BNB 2020 г.</b>	
<b>15</b>	Investbank AD	<b>21</b>	BNP Paribas S.A. – Sofia branch
<b>16</b>	Teksim Bank AD	<b>22</b>	BNP Paribas Personal Finance S.A. - Bulgaria branch
<b>17</b>	Alianz Bank Bulgaria AD	<b>23</b>	T.C. Ziraat Bankasi - Sofia branch
<b>18.5</b>	International Asset Bank AD	<b>24</b>	Varengold Bank AG, Sofia Branch
<b>18.5</b>	Central Cooperative Bank AD		
<b>20</b>	T.C. Ziraat Bankasi - Sofia branch		
<b>21</b>	Municipal Bank AD		
<b>22.5</b>	BNP Paribas S.A. – Sofia branch		
<b>22.5</b>	Citybank Europe AD, Bulgaria branch		
<b>24</b>	Varengold Bank AG, Sofia Branch		

*Source: Author's adaptation based on own calculations extracted from BNB data*

A positive trend is observed in Raiffeisenbank (Bulgaria) EAD and TBI Bank EAD, which, despite their smaller capital, rank among the financially stable banks operating in the country. As a branch of a foreign bank in Bulgaria BNP Paribas Personal Finance SA - Bulgaria branch is also positioned among the satisfactory indicators of the CAMEL system and is second in the group. A negative trend of transition to a lower group is observed in First Investment Bank AD and UniCredit Bulbank AD, which are leaders in the banking market in Bulgaria. The change in Commerce Bank D, Investbank AD, Texim Bank AD, Allianz Bank Bulgaria AD, International Asset Bank AD, Central Cooperative Bank AD and Municipal Bank AD, which rank among the banks with weaker financial stability, is similar.

## CONCLUSION

In the dissertation work the research developed is structured in a classical way in three parts: theoretical, methodological and empirical. The theoretical, methodological and mostly empirical part of the dissertation research confirms the research thesis that the Bulgarian banking market is developing in conditions of interbank competition, requiring institutional restructuring and consolidation in order to achieve compliance with the evolving regulatory framework and supervisory mechanisms of the central bank, prudential measures and targeted indicators for capital, risk, profitability and return. As a result of the theoretical part of the research- definitions, factors, goals, conditions, types, advantages and challenges related to restructuring, consolidation and competition are derived. In a more specific aspect, the author's interpretation of three key concepts is given, on which are the focus of the dissertation:

- the restructuring in the banking sector is a process of strategic reorganization of the bank, based on division, merger or acquisition, corresponding to the normative specifics and standards for the purpose of the bank's growth and counteraction to the economic challenges;

- consolidation is the regrouping of the larger banks in a small number in order to achieve a balance between global advantages and sensitivity to the local banking market;

- banking competition is a state of rivalry between the objects in a banking system through the application of market-oriented, financial and marketing methods in order to increase banking wealth and improve the distribution and production efficiency in the provision of financial services.

The dissertation thesis is supported by large-scale empirical research, analysis and evaluation of: the macroeconomic and financial environment, which has an

impact on the Bulgarian banking market; the qualitative measures in the Bulgarian banking market for the period 2014-2020, which have a representative function for assessing their condition; the application of the Herfindahl-Hirschman index in 2020 to the overall banking system in terms of assets, loans and deposits; correlation analysis of the relationships between key links between profit, equity and assets of the Bulgarian banking system and key macroeconomic indexes in the country; the assessment and analysis of the distinctness between the key banking indexes and the macroeconomic indicators for development; analysis of the effects of the restructuring and consolidation of commercial banks in Bulgaria, based on an approach based on the indicators of the CAMEL system. The most important conclusions and findings from the applied methods are:

- factors influencing the main indicators considered as generators of banking processes include the base interest rates, the annual percentage change in gross domestic product (GDP), imports, exports, long-term interest rate for assessing the degree of convergence, consumer price index in %, HICP, exchange rate to US dollars, government deficit/surplus, government revenues, government expenditures;

- as a result of the derivation of the interrelations between the macroeconomic indicators and the key banking index through the correlation coefficients of Pearson and Spearman the significance of the statistical information value for the processes in the banking structure is confirmed;

- the application of quantitative techniques with analytical value based on the parameters of the CAMEL framework is essential for evaluating the financial condition of the bank and the banking system by measuring capital adequacy, asset quality, management, efficiency and liquidity;

- based on the application of Ex-post analysis of the development of banks in Bulgaria for the period of EU membership, the presence of different types and

volumes of banks in the Bulgarian banking structure is observed, offering a variety of banking products and services. There is a successful integration of European practices that stimulate banking competition in the country. This places Bulgaria among the leading countries in Eastern Europe with a developed product offering and efficiency of the financial system. The available price sensitivity on the part of the clients of the banks dictates the variety of products and services, which stimulates the competition of the banks in Bulgaria;

- in empirical and applied practical terms, the analysis and assessment of the macroeconomic and financial ecosystem, which has an impact on the Bulgarian banking market is shown that: imports and exports are among the indicators clearly representing the problems and benefits of global trade, which directly reflects on the banking sector; the deterioration of foreign trade processes, as well as the overall economic situation, have their impact on the trends in consumer prices and the undertaking of processes in the banking sector.

The impact of restructuring, consolidation and competition has significant effects on the Bulgarian banking system. Therefore, it is important to make such decisions carefully, aiming to improve the risk profile of banks and the further development and expansion of the capacity of the banking system.

### **III. GUIDELINES FOR FUTURE RESEARCH ON THE TOPIC OF THE DISSERTATION**

With the designated main research directions, included in the scope of the dissertation, the topic on the issue of restructuring, consolidation and competition on the Bulgarian banking market is not finished. The subject is still relevant and the following guidelines for future research on the issue can be provided:

1. Study of the state and trends of the processes of consolidation and restructuring of the Bulgarian banking market, as a consequence of the measures applied to regulate the impact of the global COVID-19 pandemic.
2. Expanding the territorial and time scope of the study, after which in an analogous way, utilizing a systematic and non-systematic approach, to analyze the effects and trends of restructuring and consolidation of banks in Europe and their impact on banks in Bulgaria.
3. Inclusion of several types of alternative models for non-structural indicators of market concentration, including an attempt to test the Iwata models, the Bresnahan-Lau model and the Panzar-Ross approach in order to investigate in depth the problem of the state and the need to optimize market concentration.



#### **IV. REFERENCE ON THE SCIENTIFIC AND APPLIED SCIENTIFIC CONTRIBUTIONS IN THE DISSERTATION**

**First.** The relevance of the issues related to the restructuring, consolidation and competition of the Bulgarian banking market has been substantiated, which in turn has a strong influence on the banking institutions in Bulgaria after the Cooperative Commercial Bank crisis, the conduct of stress tests and the country's membership in the banking union.

**Second.** Following an in-depth study of numerous Bulgarian and foreign sources, normative documents and empirical evidence, the author's definitions for three key concepts are constructed, illustrating the problematic perimeter of the dissertation: restructuring of the banking sector, consolidation and banking competition.

**Third.** With a high degree of statistical significance, a link between the consolidation, competition and restructuring of banks with the macroeconomic, regulatory and institutional framework of the state has been recognized. In order to achieve stability in the financial system, a policy recommendation has been made aimed at promoting a competitive environment and the starting point of decision-making for consolidation in the banking industry should be the implementation of a conservative merger and acquisition policy, supported by professional business models and analysis, taking into account the whole spectrum of effects.

**Fourth.** A comprehensive empirical study was conducted, including analysis and assessment of the macroeconomic and financial ecosystem, which has an impact on the Bulgarian banking market; the qualitative indicators in the Bulgarian banking market for the period 2014-2020, which have a representative function for assessing

their condition; the application of the Herfindahl-Hirschman index in 2020 to the overall banking system in terms of assets, loans and deposits; correlation analysis of the relationships among key relationships between profit, equity and assets of the Bulgarian banking system and key macroeconomic indicators in the country. As a result, a substantiated financial and economic assessment was performed and the degree of distinctness between the key banking indexes and the macroeconomic development indicators was established.

**Fifth.** On the basis of an approach that integrates the indicators from the CAMEL system, the effects of the restructuring and consolidation of the commercial banks in Bulgaria until 2020 are analyzed and summarized in an authentic verbal-tabular model.

## V. LIST OF PUBLICATIONS RELATED TO THE DISSERTATION

### Articles:

1. Yaprakov, O., Restructuring and consolidation of Bulgarian banks – system analysis and assessment, Economic achive 2/2021 г., 65-74 p., ISSN: 0323-9004, URL: <https://nsarhiv.uni-svishtov.bg/title.asp?title=1624>
2. Япраков, О., (2021), Анализ на количествените измерители в българския банков пазар, Годишен алманах „Научни изследвания на докторанти“, ISSN: 1313-6542-книжно издание (in the process of publication)
3. Prodanov, S., Yaprakov, O., Zarkova, S. (2021), CAMEL assessment of the effects of the restructuring and consolidation of banks in Bulgaria, Economic Alternatives Journal (in the process of publication), ISSN (online): 2367-9409

### Scientific reports:

1. Япраков, О., Въздействие на чуждестранните банки върху банковата конкуренция-по примера на българската банкова индустрия, 25-та студентска конференция на катедра МИО - Свищов, 2021 г., стр. 74-79, ISSN 2738-8573, URL: [https://dlib.uni-svishtov.bg/bitstream/handle/10610/4478/Sbornik\\_MIOconf2021.pdf?sequence=5&isAllowed=y](https://dlib.uni-svishtov.bg/bitstream/handle/10610/4478/Sbornik_MIOconf2021.pdf?sequence=5&isAllowed=y)
2. Япраков, О., Дигиталните финансови услуги – съвременния конкурент на традиционния банков пазар, Заключителна международна научна конференция „Иновативната неконвенционална парична политика на водещите централни банки и нейните ефекти за развитите и развиващите се държави, с акцент върху България“ 9-10 октомври 2021 г., Проект № ДН15/10, ФНИ (in the process of publication with a document issued by UNWE)

**VI. REFERENCE FOR COMPLIANCE WITH THE NATIONAL REQUIREMENTS UNDER THE RULES FOR IMPLEMENTATION OF THE ACADEMIC DEVELOPMENT ACT IN THE REPUBLIC OF BULGARIA**

National requirement in points: 30

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Number of articles, published in unrefereed journals with scientific review, or published in edited collective volumes: 1 pc.

Number of points for the author: 10

Number of reports, published in unrefereed journals with scientific review, or published in edited collective volumes: 2 pcs.

Number of points for the author: 20

Total points:  $30 \geq 30.00$

## VII. DECLARATION OF ORIGINALITY OF THE DISSERTATION

The dissertation in the volume of 210 pages under the title: "*Restructuring, consolidation and competition on the Bulgarian banking market*" and the author's abstract to it are authentic and represent the author's own research production. They use the author's ideas, texts and visualization through graphics, diagrams, tables and formulas, complying with all the requirements of the Copyright and Related Rights Act by accurately citing and referring to another's author's thoughts, as well as data, including:

1. The results achieved in the dissertation and the contributions 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 reports, etc. corresponds to the objective truth.
3. The research results, which are obtained, described and / or published by other authors are properly and thoroughly cited in the bibliography.

**Date:** 02.11.2021

**PhD student:** .....

/Orlin Yaprakov/