

# ABSTRACTS OF THE MATERIALS PRESENTED, INCLUDING SELF-ASSESSMENT OF CONTRIBUTIONS

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## MONOGRAPH

### 1. Independent monograph:

Atanasov, P. *'Financial Markets and Economic Growth - Theory and Results'*,

Ed. Eudaimonia Production, Sofia, 2020, pp. 1 - 130, ISBN 978-619-7209-39-6

**Abstract:** Financial markets are a fundamental factor of any economy, as the level of their development and the state of their health are the basis of economic growth. Among the three most important markets - that of capital, real product and labor, the former emerged last, but has reached the most serious development, never before being larger, more dynamic and more diverse. Gross domestic product, on the other hand, although a rough measure, is likely to reflect economic growth for a long time to come. Financial markets and economic growth are major economic categories and as such are directly or indirectly the focus of a significant part of economic theories.

The study of causality and the relationship between theories that shed light on financial markets and economic growth, on the one hand, and empirical results, on the other, is more fully revealed using key indicators such as long-term debt and key interest rates. Debt and key interest rates are key factors in any economic policy and as such are linked to financial markets and economic growth. Debt is a cornerstone which - on the one hand - finds a serious place in economic theories and models, and on the other - is present directly and significantly in real economic policy. Debt is one of the most tolerated sources of financing and is at the heart of the open-ended topic of capital structure, where it is linked to risk and return. It is associated with financial crises, and since the autumn of 2007 it has been used as a tool to overcome them. The answer to the question of the impact of long-term debt on market returns and economic growth is, in fact, the answer to the question of how unprecedented quantitative easing to deal with the crisis is its adequate answer. The severe decline in output from 2008 to 2009 and the subsequent disappointing recovery were accompanied by unprecedented fiscal expansion, which led to a significant increase in government debt, especially among developed economies. Ten years after the global financial crisis, UNCTAD estimates that the ratio of global debt to gross domestic product is one-third higher in early 2018 than at the beginning of the crisis.

Unfortunately, today we are witnessing a new, unprecedented crisis, the economic consequences of which, in the author's humble opinion, will surpass the healthcare ones. The world's economies are undergoing another test, which awaits adequate solutions, which so far are again limited to debt and interest rates. Debt is directly linked to the key interest rate, which helps central banks control money supply and thus affects economic growth and market returns. Monetary policy and the role

of central banks have received a major boost in the last century, playing a significant role in economic stability. The debate over the causal links between long-term debt and economic growth remains open to this day, and there is currently no consensus among economists in this regard.

Historically, in advanced countries, rising debt levels have arisen in response to deteriorating economic conditions and stifling growth, lower fiscal revenues, declining asset prices or excessive military spending. A look back in history shows that debt peaks were reached during World War I, World War II and the Great Depression. The net effect of debt on economic growth could hardly be established theoretically, which requires a thorough and consistent empirical analysis.

In the present monograph such an experiment is made, the first part of which begins with an overview of the theoretical statement, which covers financial markets, economic growth, longterm public debt and key interest rates. In the second part, an empirical review is made, which reveals both results that support or reject the theoretical formulation, and interesting ones that remain outside its scope. The latter represent an interesting opportunity for future research. In the third part, with the help of Granger's model, the existence of causality between a dependent variable and a factor is investigated, after which the results are analyzed and summarized in conclusion. The latter, as well as the thesis and hypotheses defined at the beginning, do not sound imperative, as the author realizes that the study covers only a group of markets, was conducted in the medium term and using a specific model.

**Self-assessment:** The main contribution of the monographic work is that with the help of an indepth review of theories and models examining the studied variables, certain dependencies have been derived and systematized. It has been proven that the main postulates in the presented theories and models are not always straightforward and sufficiently categorical. An attempt has been made to prove to what extent economic theories and models are confirmed in the analysis of their dependence on financial markets, economic growth and related long-term debt and interest rates. This is important not only because the studied variables are basic financial indicators, but also because some of them are key instruments of economic policy.

Another significant contribution is the presented empirical review, which offers a variety of authors' positions, some of which remain outside the scope of the theoretical formulation and open the possibility for new research. Their results could add significant value to the studied dependencies and suggest new different positions. Last but not least, the financial crisis of 2008/2009 falls within the time horizon of the conducted research, which makes it possible to register the practical manifestation of some of the studied variables. The five chapters of the monograph prove the null hypotheses, which in turn strongly confirms the main research thesis, namely - that simplified theoretical assumptions about the relationship between financial markets, economic growth, long-term public debt and key interest rates should be considered in context of the processes in the separate markets, as depending on the time period their manifestation can be only partial and incomplete. The results of the study are neither completely one-sided nor completely definite, but they are convincing enough to prove the main hypotheses as formulated. These results suggest that the basic theoretical formulation does not sufficiently correspond to the economic reality, dynamics

and challenges of the time. This is a serious challenge to both economic science and economic policies in the world.

This monograph contributes considerably to a more in-depth understanding of causality and dependencies in the studied variables. The author realizes that the results are such only under the current limitations. In support of this, an additional study of the two-way causality between economic growth and market return was conducted, but for a thirty-year period - Table 81 of the annexes, which shows more pronounced results in the dependence of market returns on economic growth. Conducting the present study over a longer time horizon would also allow sufficient dependencies between longer time series to be considered.

### LIST OF PUBLICATIONS

1. Atanasov, P., *'Causality between long-term public debt and economic growth'*, International Scientific Conference "Modern Methods in Management" - UNWE, Ravda, 2019, 19 (1), ISSN 1314-0582

**Abstract:** Long-term public debt is a major economic category, as well as one of the most widely used financial instruments. As such, debt invariably falls into the focus of a significant number of economic theories. Economic growth, in turn, is a major goal of economic policy. The debate over the causal links between long-term public debt and economic growth has not been resolved and remains open to this day. Moreover, the global financial crisis of 2008/2009 gave new meaning, opening up a huge field of work, and there is currently no consensus among economists in this direction. Debt was one of the main financial instruments used in the fight against the crisis, but the results of its use are controversial. Against this background, the economic challenges of the current pandemic take the issue of debt even more seriously, giving it additional relevance, because debt is now again the main anti-crisis tool. The net effect of debt on economic growth could not be established theoretically, which requires the use of in-depth and consistent empirical analysis, as applied in the present study.

**Self-assessment:** The main contribution of the present study is that it provides the means to a deeper understanding of the relationship between the studied variables. The work highlights an indepth review of the theoretical formulation, systematizing the main directions. The latter are neither one-sided nor sufficiently definite. In addition, it represents a comprehensive review of the empirical results in the research topic, which offer an even greater diversity of theoretical formulation. The results of empirical research on the relationship between public debt and economic growth are uncertain, with a number of authors pointing out that they are highly heterogeneous in different markets and could change over time. Based on the empirical review, all available results are systematized, and many of them remain outside the field of theoretical formulation. The latter is a special contribution, as it opens new directions and opportunities to work in search of the studied dependencies. The analysis of the study shows that no definite conclusion can be drawn on the relationship between long-term public debt and economic growth. The solution in this direction

could be the independent study of different countries with the help of more and more diverse models, taking into account the specifics of the respective markets.

2. Atanasov, P., *'Dependence between market return and economic growth of the countries of the Organization for Economic Cooperation and Development'*, International Scientific Conference "Modern Methods in Management" - UNWE, Ravda, 2019, 19 (1), ISSN

**Abstract:** The global capital market has never been bigger, more dynamic and more diverse. It has been growing faster than GDP and as a result it has tripled in the past twenty years relative to world's GDP. The capital market is one of the most important elements of any healthy, well-functioning economy. Globally, capital markets are among the main drivers of growth and prosperity. The aim of the present study is to reveal whether there is a causality between the variable market returns and economic growth in OECD countries. The presence of such in the direction of economic growth - market return would be useful in measuring and forecasting the capital market, which is of undeniable importance for all its participants. Proving causality in the direction of market return - economic growth would be useful in forecasting GDP growth on the one hand, and on the other - its decline or crisis. In the light of the crisis of 2008/2009 and especially of the economic consequences of the current pandemic, the topic of the study became even more relevant.

**Self-assessment:** The present study offers an in-depth overview of theories and models that focus on market returns and economic growth. In addition, the factors that could influence the presence of causality in the studied variables are reviewed and systematized. A special contribution here is the derivation, systematic grouping and analysis of the dependencies between the studied variables. Given that the latter are some of the most important economic measures, the positions presented are extremely diverse, which makes the interpretation of the relationship between them a serious challenge. The empirical review of the studied variables proposed in the paper is characterized by an even greater diversity than the theoretical one. The results presented here are systematically grouped and analyzed, and potential baseline scenarios are proposed. Although the results of the study between market returns and economic growth are not one-sided, convincing and definite, the latter are a contribution. The reason for this statement is that these results reveal and confirm on the one hand the depth, complexity and diversity of the studied causality, and on the other hand that theoretical formulations and models do not reliably cover the studied dependencies or lag behind market processes over time.

3. Atanasov, P., Kabaivanov, S. *'Modelling the innovative potential of companies in the pharmaceutical industry in Bulgaria'* (2018) AIP Conference Proceedings, 2048, art. no. 020010.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058793862&doi=10.1063%2f1.5082028&partnerID=40&md5=def643e7b720343afb8f7b8218d860bf>

**Abstract:** The pharmaceutical industry is one of the fastest growing one in the world, based on

innovation and creating high added value. In the present paper, after a thorough review of the type and structure of the Bulgarian pharmaceutical industry, a model is proposed to explore the possibility and potential for the creation of original medicines. The model is built with the help of real options, taking into account the multi-phase nature of pharmaceutical innovation. Another possibility of the proposed model is risk measurement, which is extremely important in high-risk ventures, such as pharmaceutical innovation. The model was calibrated with the help of real data from the Bulgarian pharmaceutical industry, after which it was approbated, the ultimate goal of which is to assess the possibility of technological and market success of an innovative medicine.

**Self-assessment:** This article provides in-depth analyzes of the type, structure and potential of the Bulgarian pharmaceutical industry on the one hand and the features, nature and specifics of pharmaceutical innovation in the world on the other. In addition, the nature of pharmaceutical innovation and the ways in which it could be implemented are presented and interpreted. The main contribution of the work is the proposed model, which provides an opportunity to assess the process of research and development, its funding, as well as the ability to measure the risk of pharmaceutical innovation. A specific contribution of the research is that it highlights the key factor for the success of pharmaceutical innovation, on the basis of which successful strategies could be built. The key factor for the success of pharmaceutical innovation in the present study is the degree of market penetration of the finished product. Outside the context of the specific study, the proposed model could be used in the analysis of innovation potential in general, especially in complex multiphase processes. Apart from pharmaceuticals, such are the information technologies, where in recent years the so-called open innovation has become mandatory. The model could be useful in measuring risk at different stages, which would support both management and financial decisions.

4. Atanasov, P., Kabaivanov, *'Application of Real option Analysis for Analyzing Management and Financial Problems'*, T-EBU IP, Iasi, Romania, May 2014

**Abstract:** The solutions to the managerial and financial problems in the modern company are some of the most complex ones. The existence and future development of the company depends on them, they are resource-intensive, labor-intensive, are realized in the absence of information and affect the risk to which the company is exposed. Last but not least, it is not always possible to correct the wrong steps. The decision of financial and managerial decisions could be approached in classical ways, which, however, have a number of shortcomings - they are not flexible, they contain very simple assumptions. This study, taking into account the nature and specifics of the problems posed, attempts to propose alternative solutions using real options.

**Self-assessment:** This paper is devoted to alternative solutions related to management and financial problems. It reviews the classical approach to solving the problems in question, highlighting its weaknesses and shortcomings, outlining the needs that it does not meet successfully. Among the latter are the many sources of uncertainty, changes in the environment, lack of flexibility and many more. The main advantages of the real options are presented, among which are: adaptability to complex systems; decision-making in an environment with multiple sources of uncertainty;

evaluating solutions and opportunities that are not known in great detail, focusing on the effect they will have on us, instead of focusing on the probability of each event and possible outcome. The variety of methods for evaluating real options is presented. An analysis of the nature of the real options themselves is made, presenting their parameters and their more important aspects. The process of evaluating the real options follows and the factors influencing their price are presented. The variety of real options is indicated, as well as the construction of possible scenarios and analysis. Complex corporate analysis and management require all existing options to be considered in order to get a correct picture of the real value of assets. The standard valuation approach, which relies on discounted cash flows, does not take into account built-in flexibility and tends to underestimate projects, opportunities and potential gains, shortcomings that real options could address.

5. Atanasov, P., *'Dependence between debt and market return of OECD 15 countries'*, International Scientific Conference "Modern Methods in Management" - UNWE, Ravda, 2020, 20 (1), ISSN 1314-0582

**Abstract:** The present paper attempts to find a causality between the debt and market returns of OECD 15 countries. Proving this is essential in forecasting the capital market, which in turn is one of the foundations of the economies studied. The discovery of the studied dependence would have an impact on all participants in the capital market, as well as on the whole economy. For the purpose of the study, Granger's model was used, with the help of which the current results were achieved.

**Self-assessment:** An important contribution of this paper is that it focuses on research and analysis of the relationships and dependencies of such fundamental categories as debt and market returns. Many theories are presented and interpreted in the theoretical setting of the study, which focus on debt and market returns. Attention is paid even to those which do not directly consider the studied variables, but could have an indirect explanatory effect. An in-depth assessment of the mechanisms of the studied relationship is proposed. The presented review of the literature review gives the studied dependence even greater diversity. The studied dependence goes from the presence of positive to the absence of such, through the presence of negative dependence to the presence of opposite dependence and all this is further enriched by research-specific constraints such as debt, individual market sectors and many others. Thus structured empirical results offer an opportunity for new research that would have a build-up effect. The main contribution of the work is its result. The existence of causality between the debt and market returns of OECD 15 countries is categorically rejected. This is an important guideline in the analysis and forecast of market returns through the prism of debt use.

6. Atanasov, P., *'Impact of market changes on initial public offerings'*, Public Policy Magazine. 2020, ISSN 1314-2313

**Abstract:** Going public is one of the most important events in the company's life cycle, and the decision to become a listed company on the stock exchange is associated with significant and diverse costs and benefits. The initial public offering process is an entry point and an important barometer for the capital market. Although the main direct interested parties in the primary markets are the companies that are financed by going public and the investors who entrust their financial resources to them, the indirect benefits of a well-functioning market are reflected throughout the economy. The present paper aims to highlight the main advantages of going public from private, as well as the motivation, driving forces and factors associated with it.

**Self-assessment:** The present paper outlines the main advantages of going public, its strengths and weaknesses, potential costs and benefits. In addition, the factors motivating the decision to make the move to a publicly listed company are reviewed. These will have both financial and regulatory dimensions in addition to the newly acquired company image and other. An empirical review of the results in the researched topic is proposed. Its summary and analysis through the prism of the main advantages of going public aims to outline the leading factors and arguments in the decisionmaking for the initial public offering. This result is a major contribution to this paper. This result is extremely valuable, both for small scale and modest by history capital markets such as ours, and for developed ones.

7. Atanasov, P., *'Challenges to emerging capital markets'*, International Scientific Conference "Modern Methods in Management" - UNWE, Ravda, 2020, 20 (1), ISSN 1314-0582

**Abstract:** The well-functioning capital market allows for long-term financing of public companies, associated by a number of authors with economic growth, offers a rich palette of investment opportunities and is considered a measure of the economy. In less developed economies with an emerging market, such as ours, the listed opportunities become even more relevant. The present paper aims to identify and analyze the main challenges facing emerging capital markets. Another key task is to review and summarize possible solutions that could help the markets in question to overcome the challenges they face.

**Self-assessment:** Building and strengthening emerging capital markets is crucial for national economies, supported by both relevant governments and major international institutions. The scale and activity of these markets have grown remarkably in recent decades, far exceeding those of developed markets. The latter presupposes the realization of a return above the average, which is of indisputable interest for the investment community. The main contribution to the present study is the analysis of the main challenges facing the emerging capital markets, the latter being derived, summarized and analyzed. An in-depth review of the areas and sectors with which the latter correspond, as well as the impact that their development would have, is proposed. In addition, an assessment was made of the factors that have a mixed or even deterrent effect.

The successful construction and development of the capital market is not an end in itself, but a

deeply realized necessity, and is not a mechanical sum of the many conditions and prerequisites. It is a function of the investment culture, the society-specific mentality and traditions, as well as the structure of the respective market. The Bulgarian capital market bears all the hallmarks of the markets studied in the present paper, from which it follows that the conclusions made are valid. The latter is an additional contribution and gives greater relevance and significance.

8. Atanasov, P., '*Study of Causality between the Base Interest Rate and the Market Return of OECD Countries*', International Scientific Conference "Modern Methods in Management" - UNWE, Ravda, 2021, ISSN 1314-0582

**Abstract:** The relationship between macroeconomic indicators and the capital market is a major problem in the economic literature. Market returns and key interest rates are two of the main drivers of economic growth, and the 2008/2009 global financial crisis has given further impetus to exploring the relationship between monetary policy and asset prices worldwide. This study examines the causal link between the key interest rate and the market return of OECD countries. Proving a causal link in the direction of the main interest rate-market return would allow more accurate forecasting and analysis of the capital market, the importance of which is indisputable.

**Self-assessment:** Financial markets are complex systems consisting of a huge number of agents, whose behavior is determined by a significant number of dynamic factors. Through this prism, the relationship between the key interest rate and market return could vary depending on the time horizon and risk profile of market participants, the presence of market trend and sentiment, a number of macroeconomic factors and many others. The main contribution of the present study is that it facilitates the thorough comprehension of the relationship between the studied variables. The latter are some of the most important economic categories of any economy, as a result of which they fall into the focus of many theories and models. In the course of this research paper the results of the review of the theories and models in question are presented, summarized and analyzed. On this basis, taking into account the direction of their influence, the factors that have the strongest influence on the studied dependence are grouped and ranked. Although the theoretical arguments are relatively grouped, there are some that share different to completely opposite statements. Against this background, much of the earlier empirical research provides evidence of a significant negative relationship between interest rates and market returns. However, some of the more recent studies show that this relationship is broken and not constant over time, which is confirmed by the results of the current study. Another important conclusion that would be valuable in future research is that the factors influencing the studied variables are becoming ever more diverse and extremely dynamic, which is a serious challenge to the models used.

9. Atanasov, P. '*Relationship between the basic interest rate and the economic growth of the OECD*', International Scientific Conference "Modern Methods in Management" - UNWE, Ravda, 2021, ISSN 1314-0582

**Abstract:** This article aims to examine the relationship between the economic growth and the key interest rate in OECD countries, measured by GDP. Proving such a dependency would be useful in making decisions that affect the variables in question, as well as in forecasting them. Detecting the dependence between the studied variables would be important in the analysis of a number of economies, which more than ten years after the financial crisis of 2008/2009, remain far from their pre-crisis potential. Against this background, given that the key interest rate is among the key tools for dealing with the economic consequences of the current pandemic, the relevance of the work is increasing.

**Self-assessment:** The variables studied in the article are some of the main ones used in the analysis and forecast of the most important economic indicators of each economy. The main contribution of this research paper is that it is focused on the study and analysis of the studied variables, which contributes to a deeper understanding of the relationships between them. Although a rough indicator, Gross Domestic Product is likely to measure economic growth for a long time to come, and interest rates are a key indicator of financial markets that has a strong impact on the economy as a whole. However, the mechanisms and direction of the links between interest rates and economic activity are extremely difficult to study, a result that this research confirms. The effect of interest rates on economic growth appears to be mixed and can be transmitted through multiple channels. Most economic models show that the interest rate itself is influenced by many aspects, such as money supply, technological change or production. Interest rates could have a significant impact on the volume of investments, as well as on the volume and distribution of savings. This is especially true in countries where financial markets are well developed, such as those studied. However, this in itself does not guarantee economic growth because the 2008/2009 crisis has seen high levels of savings and low levels of investment, a process known as the austerity paradox. Another important conclusion of the analysis is that the importance of modeling, analyzing or forecasting interest rates and their impact is negligible. The probable reason is that the capital markets of large developed economies are highly integrated and interest rates are largely formed as a function of the global market rather than the specific economy.

**10. Atanasov, P., 'Project of a cluster for wine tourism in the Eastern Rhodopes, Strandzha and Sakar', Public Policy Magazine. 2021, ISSN 1314-2313**

**Abstract:** This research proposes a project that would support the establishment of a cluster for wine tourism in the region of the Eastern Rhodopes, Strandzha and Sakar. For this purpose, the business concept of the cluster has been prepared, which contains the potential benefits, its strengths and weaknesses. The goals of the cluster are presented, as well as the prospects for its development. A marketing strategy has been prepared, including its possible positioning. A structure for organization and management is proposed. A financial analysis has been made.

**Self-assessment:** The project of a cluster for wine tourism in the region of the Eastern Rhodopes, Strandzha and Sakar has covered all the most important steps in establishing this type of organization. The main contribution of this paper consists in the complex approach on which it is

built, in the depth of its content and in the consideration of all important factors for the project. The approach covers the very concept of the cluster in general, goes through an analysis of the potential of the area that the cluster should include, presents the benefits of its establishment through the prism of available potential, outlines possible development scenarios. In this process, regional, national and global trends are taken into account, which have an impact on the subject of the cluster's activity. Taking into account the potential of the region, including: type and structure of agriculture, industry, trade, tourism, labor resources, etc., the main strategic goals and development prospects are designed. The proposed marketing strategy implies intensive use of all information channels inside and outside the cluster, taking into account both its subject and specific features such as people's mindset, traditions and others. The presented structure of organization and management takes into account both the experience of leading and well established such structures and the specifics of the present one. A financial analysis is proposed, which assumes the use of the maximum number of supporting projects and tools, both in the establishment and in the subsequent operation and management.

11. Atanasov, P., '*The place of the state in the knowledge triangle*', Public Policy Magazine. 2021, ISSN 1314-2313

**Abstract:** In today's globalized world, the main competitive advantages are based on innovation, the latter being one of the proven approaches to achieving high prosperity. Over the last twenty years, the European Union and Bulgaria in particular have adopted a number of ambitious strategies towards the successful realization of the knowledge triangle and building an innovationbased economy. Unfortunately, the sober and critical assessment at the EU level and especially in our country shows an unsatisfactory level of results. This article aims to identify the main factors for the successful realization of the knowledge triangle, and an attempt is made to define the place of the state.

**Self-assessment:** In search of a successful design that would indicate the exact place of the state in the knowledge triangle, theoretical models and empirical evidence are interpreted on the one hand, and practices in markets where the concept is successfully implemented, on the other. This complex analysis is a major contribution of this paper. In addition, global trends and national specifics have been taken into account. The paper reviews the problems and challenges that hinder the successful implementation of the studied concept in our country. In this regard, the lack of sufficient funding is too often cited as a major problem. We assess the latter as a secondary factor while other more important challenges in the field were underestimated. As prerequisites for the successful implementation of the concept of the knowledge triangle and through the prism of the state are the creation of conditions and prerequisites for effective work, appropriate environment or ecosystem, values shared by all participants in overcoming the border between countries and others. Although by definition not accepted as part of the knowledge triangle, in all markets where this concept has been successfully implemented, the state plays an extremely important role. A role that includes key elements such as: the adoption of strategic documents, legal and regulatory frameworks, a long-

term vision that does not suffer from political turmoil, and the promotion of innovation. Fruitful and successful work in the knowledge triangle is a process based on the deeply perceived necessity by all interested parties. The awareness in question is a natural, evolutionary process that could not be carried out administratively, which does not mean that it should not be actively supported.

**12.** Atanasov, P., *‘Challenges and solutions to the knowledge triangle in Bulgaria’*, Public Policy Magazine. 2021, ISSN 1314-2313

**Abstract:** Building an economy based on innovation is a proven approach to achieving high prosperity. One of the indisputable ways to achieve this goal is to work successfully in the knowledge triangle. Markets where science, business and innovation share common values, trust and direction, achieve significant results and could serve as an example to strive for. This paper aims on the one hand to identify and analyze the main challenges and problems facing successful work in the knowledge triangle in our country, and on the other - to identify potential benefits, opportunities, solutions and good practices in this endeavor.

**Self-assessment:** In this paper the key internal and external factors and tendencies influencing the concept of the knowledge triangle are derived and studied. An analysis of the state of the concept of the knowledge triangle in Bulgaria has been done, which is a major contribution of the work. Among the main problems facing the successful implementation of the knowledge triangle in our country have been identified as: lack of vision and consistency, lack of appropriate ecosystem, insufficient funding, severe lack of interest, motivation and trust among concerned parties. A review and evaluation of the adopted and relevant regulatory documents in this direction is proposed, according to which the approval of new strategies should be combined with their continuity and commitment. These documents should take into account the real strengths and weaknesses of business and science, as well as the potential for development. It is extremely important that future regulations are securely linked to funding sources. Integral to the adoption of new strategies is the establishment of mechanisms to regulate their implementation. Possible solutions and good practices are segmented through the prism of business, science, the state, and mixed ones. There are no easy and quick solutions in this direction, but among the indispensable conditions are a deeply felt need, desire, will, patience and much more intensive dialogue. Science and research should be business-oriented and practical, not an end in itself and statistics. The accumulation of knowledge and even the creation of innovations remain worthless until they materialize and transform into prosperity. The key to the latter is called entrepreneurship, and its vehicle, for the most part, is business.

**13.** Atanasov, P., *‘The cluster as a model for successful decisions in the knowledge triangle’*, Scientific Conference "Days of Science 2021", University of Plovdiv, ISSN 2534-9376

**Abstract:** The dynamic conditions in which the national, European and world economies find

themselves require extreme flexibility and adaptability. Global competition, the health crisis, energy challenges and climate change are just some of the threats that economies must face. The use of adequate models in such a complex environment is a key factor for successful decisions. This paper aims to explore the applicability of the cluster approach in the successful implementation in the knowledge triangle.

**Self-assessment:** The analysis of the essence and nature of the cluster model stands out in this study. Inherent in the cluster are openness, trust, knowledge transfer and sharing of common resources and values, freedom and transparency in relationships, constructive competition and the opportunity to build cross-sectoral and international contacts and strategic partnerships. The cluster model generates significant innovative potential. The cluster drives collaborative approaches that allow initiatives, projects and activities identified and shared by partners to be delivered in an effective and efficient way. A significant contribution of this paper is that it examines the applicability of the cluster model in the successful implementation in the knowledge triangle. Clusters function as networks of interconnected companies, suppliers, related research institutions and other structures that work together on the basis of public-private partnerships. The participants thus defined practically overlap with those in the knowledge triangle. The applicability of the cluster in the successful implementation in the knowledge triangle is of interest through the prism of some more important features. These are: openness, vision, flexibility, ability to share and work with common information resources and as a result modern competitive advantages based on innovation. The cluster model could provide a good basis for tackling challenges ranging from globalization to demography. The cluster model is not a panacea, but with the opportunities and potential it has, it could be a serious building block in the knowledge triangle.

14. Atanasov, P., *'The open (network) model as a successful solution in the knowledge triangle'*, Scientific Conference "Days of Science 2021", University of Plovdiv, ISSN 2534-9376

**Abstract:** Successful solutions in the knowledge triangle require, on the one hand, a long-term vision, deep motivation and a suitable environment (ecosystem), and on the other hand, the use of an appropriate model. This paper attempts to establish whether and to what extent the open network model meets these conditions. Comparing the key requirements for a successful model in the knowledge triangle with the essence and strengths of the open (network) model, we conclude that the latter covers a significant part of the requirements of the former.

**Self-assessment:** The present study highlights the analysis of the key requirements for a successful model in the knowledge triangle. Against the background of a globalized world and increasing competition, it turns out that domestic sources of innovation are limited, increasingly scarce and too expensive. Today, flexibility is becoming a major challenge for research and development and business in general, and maintaining originality and uniqueness is extremely difficult. A special contribution to the research is the derivation of the nature, strengths and weaknesses of the open (network) model as a successful solution in the knowledge triangle. The open model for innovation

is not a panacea, it can be seen as an opportunity or an option. All possible degrees of freedom are permissible, which is in line with the specifics of the interested parties and the nature of their activities.

### **BOOKS AND WORKBOOKS**

1. Atanasov, P., *Workbook on Corporate Finance*, Ed. Eudemonia Production, ISBN 978619-7209-40-2

**Abstract:** The workbook on corporate finance offers an opportunity for in-depth understanding of the subject in the respective teaching course. It includes the derivation, summarization and analysis of the theoretical formulation, offering a variety of points of view. The proposed content is in line with current trends and achievements in the presented field. The workbook helps to understand how markets and business agents are organized and function, what their main drivers are, and what their impact could be.

**Self-assessment:** The main contribution of this workbook is that with the help of the theoretical and methodological structure of the main topics and through the many practical tasks, cases, questions and examples allows students to: learn and process and subsequent interpretation of the presented material; to build and propose a reasoned opinion on the presented topics; to prepare an analysis of the main economic problems affected by the manual, to study the economic reality and the problems related to it, to offer forecasts, to acquire skills related to the use of various financial instruments to achieve certain economic goals, and to apply their knowledge in future research projects.

**2. Published book based on a defended doctoral thesis and obtained PhD degree:** Atanasov P., *Financial Management of the industrial company (a company in the pharmaceutical industry in Bulgaria)*, 2020, Plovdiv, pp. 1-158, ISBN 978-619-7209-38-9

**Abstract:** The present work is related to the study of the possibility of the Bulgarian pharmaceutical industry to create innovative drugs. The pharmaceutical industry is one of the most dynamic, fast-growing and high-tech industries in the world. It is highly innovative, highly regulated and generates extremely high added value. The world pharmaceutical market is driven by many, sometimes contradictory trends and is developing rapidly. It is facing major changes that are transforming its architecture. In our country, the pharmaceutical industry is one of the leading and fastest growing sectors of the economy. The relevance of the study stems from the financial, social and socio-humanitarian aspects of the topic, and from today's point of view there is hardly a factor that could convey greater relevance than the current pandemic.

**Self-assessment:** The contribution of the present work consists in the study of the peculiarities in the financial management of the company from the pharmaceutical industry. The specifics of finance and financial management, risk management, as well as the capital structure of the company from the pharmaceutical industry are presented and analyzed. In addition, characteristics and opportunities for modeling the financial structure of the company from the pharmaceutical industry are presented. An overview of: market structure, main trends, challenges and factors influencing the pharmaceutical industry. An in-depth review of the main approaches and models in the pharmaceutical industry has been made. The main contribution to the present study is the proposed organizational, managerial and financial model, meeting the modern conditions and challenges of the pharmaceutical market. The calibration and approbation of the second model confirms its ability to adequately analyze both financial efficiency and the risk of pharmaceutical innovation.

21.12.2021 r.

Plovdiv

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