ECONOMIC RESEARCH INSTITUTE
BULGARIAN ACADEMY OF SCIENCES

ИНСТИТУТ ЗА ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ НА БЪЛГАРСКАТА АКАДЕМИЯ НА НАУКИТЕ

# ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ

## ECONOMIC STUDIES

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# LOOKING AT NEW ECONOMIC PARAMETERS IN NATIONAL, REGIONAL, EUROPEAN AND GLOBAL CONTEXT

*The article reviews the results of scientific and applied studies and projects of academic staff and practitioners related to the current tendencies in the economic theory and practice, and the economic challenges facing the development of Bulgaria, the countries of the region of Southeast Europe, the European Union and globally presented during the international scientific forum of the Economic Research Institute at the Bulgarian Academy of Sciences, dedicated to the 70th Anniversary of the Institute.*
*JEL: B4; E00; F00; J00; M00; O1, O3; Q00; R1*

Economic Research Institute at the Bulgarian Academy of Sciences (ERI-BAS) was an organiser and host of the held on November 21-22, 2019 in Sofia Jubilee international scientific conference "*Economic development and policies – realities and prospects*" 2019, dedicated to the 70th Anniversary of the Institute, which coincides with the celebration of 150 years since the foundation of the Bulgarian Academy of Sciences and is part of the series of traditional annual scientific conferences held by the Institute.

Researchers from Bulgaria, Poland, Romania, North Macedonia, Serbia, Turkey, Ukraine, Montenegro and Algeria took part in the scientific event. During the two-day forum, 83 presentations and 3 posters on the problems of economic development of Bulgaria, the European Union and the third countries in regional and global perspective were made by 104 authors. Among them were academics and lecturers with significant research and expert experience, representatives of 3 foreign (Macedonian, Romanian and Ukrainian) Academies and 2 Bulgarian (BAS and Agricultural Academy – Sofia) national academic institutions; 14 Bulgarian universities from all over the country and 6 foreign universities (of Bucharest, Romania; Lodz, Poland; Ouargla, Algeria; Anadolu, Turkey; Belgrad, Serbia; Montenegro); of business, as well as a guest participant from the University of Colorado, USA. This allowed for multidisciplinary exchange of ideas, opinions and results from the analysis of the state and prospects for the development of the economy of Bulgaria and other countries. Young scientists showed a strong interest in the topic of the conference – more than one-third of the presentations were prepared individually or in co-authorship

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with habilitated scientists and presented by chief assistants, assistants, postdoctoral and doctoral students from Bulgaria and abroad.

During the presentations and panel discussions, a wide range of summarised results of scientific and applied researches and projects of academic staff and practitioners were presented related to the current tendencies in the development of economic theory and practice. The tasks to be solved with this conference were to define and, where possible, to propose solutions to the problems posed by the economic challenges facing the development of Bulgaria, the countries of the region, the European Union and globally. They are in a process of constant change, which necessitates their in-depth study, analysis and evaluation of their characterising processes and phenomena.

The urgency of the topics of the conference is based on the seriousness of the problems facing Bulgaria, Europe and the modern world. In this context, five thematic areas discussed in the respective panels were proposed as the focus of the scientific event – macroeconomic dimensions of economic development; economic and financial integration in the EU and participation in the global economy; labour market and social policies; regional and sectoral development, ecology and sustainable development; the company of the 21st century.

The forum was opened with a welcome speech by the Director of the Institute, Professor Alexander Tassev. He noted that the development of the Bulgarian economy has similar problems with the countries of Southeast Europe related to the integration into the EU and the global world; therefore, the results of the research of both Bulgarian and foreign scientists, guests of the conference, are expected to cause public interest.

The tone of the scientific event was given by the **keynote speech "*Macroeconomic parameters of the development of the Bulgarian economy* "**. It was stated, that low inflation, balanced budget, relatively stable economic growth, liberal foreign trade regime, stable (fixed) exchange rate, high foreign exchange and fiscal reserves, low levels of external debt, etc. are important benchmarks for the effectiveness of the macroeconomic policy. Over the last 20 years (except for a few months in 2009-2010), these indicators have always looked good, but the sense of business travel and stagnation has never left Bulgaria all these years. The euphoria of EU accession has raised some vague hopes for future prosperity, but twelve years later, most people cannot feel and appreciate the positive dynamics of macroeconomic indicators. There is a serious confusion of goals with the means to achieve them and it leads to the mistake that good macroeconomic indicators are a sufficient condition for economic prosperity. Under the analysis in depth, it could be understood that even the craved high and stable economic growth is also not a goal, but only a means of achieving higher rank goals: a better standard of living and quality of life, which includes tangible improvement in each of the spheres of health, education, culture, social and legal protection, real participation in public life, etc. It was noted in the presentation, that the proposed material did not intend to review the current economic situation, but rather to draw attention to some important and unresolved problems that have been piling up for decades and threaten to become a long-term obstacle to the socio-economic development of the country (Yotzov, Loukanova, Sariiski, Nestorov, 2020).

The work of the conference continued according to the established panels, each in two sessions. The wide thematic spectrum of presentations in all the panels allows them to be grouped into several relevant thematic and problem areas.

## 1. Macroeconomic dimensions of economic development

The first group of presentations treated the ***theoretical issues of the contemporary economic thought and the need to search for new approaches and paradigms of economic development***.

*Vassil Todorov* presented the research programme "Classical trend in modern economic theory", currently performed at ERI-BAS with the participation of the University for National and World Economy and scientists from other universities. It is looking for an alternative to the dominated in the modern economic theory neoclassical views that are inadequate to reality. A starting point of the alternative is the classical economic theory. The main argumentations covered by the programme were presented as well (Todorov, 2020). *Dyanko Minchev* argued in his presentation that any proposals for changes in Bulgaria's economic policy will be ineffective as long as they are built on the methodology of neoclassical theory. Advances could be made by taking another approach to reality, which is based on the view that the economy is embedded in society and by introducing a new theory in education that offers an alternative to economics (Minchev, 2020). The main objective of the presentation by *Maya Tsoklinova* was to analyse and discuss the neoclassical approach to the problems of market failure and sustainable development, as well as to focus on the heterodox economic concept and its theoretical views on the problems mentioned above. Sustainable development was presented as development under the condition of a functioning unity in the triad "nature-society-economy". The role of the heterodox approach, which looks at the mutual influences of the three elements of nature-society-economy as an alternative to the dominant neoclassical economic theory, was highlighted (Tsoklinova, 2020). *Rossitsa Chobanova* argued the need for the formulation and implementation of economic development policies, which is derived from the discrepancy between the formulated goals for renewal and the results achieved in its implementation. The discrepancy is expressed in the constant low research and development intensity since the beginning of the transition, in the gradual withdrawal of the state from the formation and implementation of scientific and innovation policy, in disregard of new processes and trends resulting from the entry and use of new information and communication technologies, as well as globalisation, in maintaining low innovation performance among European countries (Chobanova, 2020). The economic development was in the focus of the presentation by *Taki Fiti* and *Tatjana Drangovska (*North Macedonia), where two important questions were elaborated: What can fiscal policy, as one of the key macroeconomic policies next to monetary policy, do for economic growth, and What factors determine sustainable economic growth and development? It was underlined, that fiscal and monetary policies have primarily a stabilisation function. However, the more emphasis placed on the stabilisation function than on the development function of policies does not implicate that they are not correlated with economic growth. Fiscal policy is generally much more directly correlated to economic growth, mainly because of two

reasons: first, public investments, especially investments in large infrastructure objects (roads, rails, energy facilities, gasification etc.) are an extremely important development component in the budgets of modern countries, and second, fiscal policy affects aggregate demand – the tax structure, and changes in taxes (tax burden) has a large influence on the behaviour of economic subjects, i.e. on the incentives of people to invest and to work, hence on economic growth and development. The changes (new considerations) in fiscal policy in the post-crisis period – after the Great Recession, were also noted. The authors concluded that healthy public finances are a crucial assumption for sustainable economic development, determined by the following main factors: technological innovation, the efficiency of institutions, the policies for income distribution and environmental protection (Fiti, Drangovska, 2020). *Garabed Minassian* treated the non-economic constraints of economic growth. He proved that using and operating with figure management economic parameters at macroeconomic level is not enough to intensify the economy. The emphasis here is on the available and constraining effect of a number of non-economic factors which have been widely ignored in practice. Four groups of non-economic constraints are identified: (1) political; (2) institutional; (3) psychological; (4) sociological. When the latter's constraining effects are neglected, the macroeconomic instruments of management stop acting. The major conclusion was that if the cultivation of an informed and politically and economically educated society fails, the country would not be able to break away from its ranking at the very rear of economic development in the EU (Minassian, 2020).

Thematically, the second group was referred to some ***particular aspects of macroeconomics***.

The ***discretionary macroeconomic policy in Bulgaria*** was an object of two presentations. *Dimitar Zlatinov* examined the limitations on discretionary macroeconomic policy in Bulgaria stemming from the Currency Board Arrangements, EU membership, and the high trade and financial openness of the Bulgarian economy. The indicators to evaluate the efficiency and effectiveness of fiscal and monetary policies were proposed. The applicability of this set of indicators was tested in 2000-2018 and showed the atypical nature of the macroeconomic policy in Bulgaria. The main conclusion was made that the efficiency and effectiveness of macroeconomic policy can only be sought if it contributes to the implementation of the structural reforms, that have the greatest potential to affect the economic environment as a whole (Zlatinov, 2020). *Tsvetomir Tsvetkov* investigated whether it is necessary to implement a stabilising fiscal expansionist discretionary policy in a small open economy under monetary board and Maastricht criteria. The impact of stabilisation policy on the currency board was also examined. The discretionary fiscal policy is not proven to jeopardise the existence of the currency board and does not lead to a risky reduction of the fiscal reserve, and that, in currency board term fiscal expansionary discretionary policy acts as a mechanism that balances economic dynamics that is subject to currency board shocks (Tsvetkov, 2020).

Proposals for improvement of ***normative tax regulations in Bulgaria*** were made in the presentation by *Yosif Avramov*. Primarily it solicits the entrance of two fundamentally new taxes that are discussed for a long time among the EU countries, but due to different reasons, their enforcement is delayed as well as of one-off tax on the wealth. The entrance of a minimum that is nontaxable in Bulgaria was offered. It was also proposed the

permanent Monitoring Committee on the Revenue Agencies and Combating the Parallel Economy and Smuggling at National Assembly to be closed (Avramov, 2020).

The analysis of ***gross added value by economic activities in Bulgaria and EU-28*** was presented by *Konstantin Kolev*. The goal was to examine the gross added value by economic activities in Bulgaria and EU-28 and on this ground to reveal the basic sectors for Bulgarian economy with potential for development on its territory. The study was based on shift-share analysis and concept of the economic basis. Their application permits the economic activities to be grouped on the Cartesian coordinate system: in the first quadrant are distributed basic economic activities with opportunities for development (Growing Base Industries); in the second quadrant are put basic economic activities with bad opportunities for development (Transforming Industries); in the third quadrant are set up non-basic economic activities without opportunities for development (Declining Industries); in the fourth quadrant are distributed non-basic economic activities with opportunities for development (Emerging Industries) (Kolev, 2020).

*Stefan Simeonov, Daniel Nikolaev* and *Teodor Todorov* studied the factors influence on the activity on the ***Bulgarian stock exchange***. It was underlined that this study is a continuation of a study examining the impact of various factors on the investment activity of the stock exchange, in particular on the Bulgarian Stock Exchange. The aim was to identify the leading determinants that have a significant impact on stock market activity. As indicators of stock exchange activity here, the stock exchange volume and the stock exchange turnover were used. The function of the dependencies for seventeen variables, which leads to the expectation of a nonlinear model, was investigated. The empirical survey determined the broad stock index BGBX40, followed by interest rates, represented by Leonia+, and the price of silver as the leading factors with positive influence for stock exchange activity. A negative relation was found from the USD exchange rate and although less influential from the state of the European stock market, presented with STOXX600 (Simeonov et al., 2020).

The third group of presentations mainly concerned questions about ***financial stability/instability in global, European and national perspective***.

*Natalya Sheludko* (Ukraine) treated the problem of global financial instability as the "new reality". It was substantiated that in the medium-term agenda, despite the fact that the leading central banks managed to pacify the global crisis of 2007-2008, to improve the prospects for the developed economies and to begin the processes of normalising the monetary policy, there remain the following questions of: high levels of global and national debts; high risks in the non-financial sector; persistently low-interest rates in many developed countries; targeted use of national currencies in order to achieve unilateral trading advantages, new challenges related to the restructuring of the financial intermediation sector on the fintech principles, etc. This is exactly the modern "new reality" under which turbulent processes of shaping the new political and economic structure of the world will take place in the coming years (Sheludko, 2020). *Silvia Kirova* analysed the evolving role of central banks for financial stability in the European perspective. The presentation traced the transformation of central bank function after the Global financial crisis, emphasising on the growing importance of the financial stability function, studied in the European context (Kirova, 2020). *Aglika Kaneva* made a forecast of the change in the

after-tax profit of banks in Bulgaria in a short-term period. The forecasting was implemented by trend models. The tendency of development in the financial result of banks has been modelled for the period 2007-2018. Based on the presumption that the established regularities will be preserved in the forecast period as well, an estimate has been developed for the future values of the after-tax profit of banks in 2019 and 2020 (Kaneva, 2020). *Yevhen Bublyk* (Ukraine) analysed the changes in unconventional monetary policies in core countries and the consequences for emerging markets. The characteristics of the modern view of scientists and international financial institutions on the benefits of financial openness of the economy as a factor of growth were examined. The signs of a more rational approach to the introduction of financial openness, which involves the use of policies to control and manage international capital flows, have been identified. The modern views were compared with the classical origins of the theory of free movement of capital and the analysis of empirical data on the practical impact of financial openness on economic growth. It was substantiated that the modern rational approach is more consistent with the classical origins of the theory of financial integration and the practical need to ensure the financial stability of economic development (Bublyk, 2020). *Svitlana Brus* (Ukraine) developed the topic of the changing investment landscape – trends for Ukrainian pension funds. Pension funds are characterised by a policy of forming a portfolio of investment instruments of the lowest risk, but the main condition is the receipt of investment income, which would not only ensure the growth of pension assets, but also protect of funds from inflationary risks. Pension funds have large volumes of assets and are the largest investors offering large volumes and long-term financial resources to the market. Important trends affecting the formation and diversification of securities portfolios by pension funds are the impact of the global financial crisis on changing investment strategies; increased investment in alternative investment instruments, due to the low yield of traditional instruments; increasing the share of pension funds in infrastructure projects and OTC assets; the reorientation of investments by countries with transitive economies from the internal market to foreign ones (Brus, 2020).

The last fourth group treated some problems, that arise from the development of ***the digital economy***.

*Sorin-Nicolae Curcă* (Romania) analysed the global financial system in the context of digital technologies development. He argued that the post-crisis period had been characterised by accelerated development of digital technologies. This evolution has involved multi-level transformations within the financial sector. In this context, the impact that digital technology development had on the financial system from the perspective of the effects on the operational activity and the changes made by the Fintech sector were analysed. In this respect, it was envisaged the presentation of technologies that have developed applicability in the field of finance, with an emphasis on highlighting the benefits and risks they imply, the evolution of the Fintech sector and the changes generated by it in the structure of the financial system, consumer behaviour and the activity of traditional financial institutions, respectively the evolution of regulatory frameworks (Curcă, 2020). *Kateryna Anufriieva* and *Yuliia Shapoval* (Ukraine) explored the problem of FinTech as a driver for financial inclusion and expanding opportunities for financial inclusion through Big Data, artificial intelligence, machine learning, and cloud services. The role of financial inclusion in achieving sustainable development goals was

substantiated. It was noted that the development of Fintech contributes to financial inclusion, including by reducing costs and expanding the range of services: new technologies facilitate the collection and processing of large amounts of information, thereby improving its management process. The authors assessed the implications of Fintech for central banking services. The risks of financial instability if expanding financial inclusion by rapid advances in Fintech without proper control were also shown. It was underlined that the problems of data protection, cybersecurity and competition are still under consideration. The conclusion was made that in order to balance Fintech opportunities and risks, Fintech issues must be integrated into national strategies for financial inclusion, including infrastructure and regulatory environment (Anufriieva, Shapoval, 2020). *George-Cornel Dumitrescu* (Romania) continued with a comparative analysis of the digital economy and society index in Romania and Bulgaria. He noted that the European Parliament and the Council have among their objectives to rank its High-Performance Computing facilities in the world top-three by 2023, by building up a robust EU High-Performance Computing industry. To this end, the Digital Europe programme aims at providing funding for projects in five significant areas of interest, namely supercomputing, artificial intelligence, cybersecurity, advanced digital skills, and ensuring extensive use of digital technologies across the economy and society. The status of digital economy and society in Romania and Bulgaria using the digital economy and society index and its components was analysed (Dumitrescu, 2020).

## 2. Bulgaria and the Economic and financial integration in the EU. Opportunities and challenges of participation in the global economy

The first thematic area covered ***Bulgaria's participation in international trade and the export orientation of the Bulgarian economy***.

*Emil Panusheff* analysed Bulgaria's foreign trade positions in the changing international regulations**.** He argued that Bulgaria's foreign economic relations are determined by its participation in the European global value chains. The changed external environment necessitates the finding of new models of international specialisation that will improve Bulgaria's participation in the integration processes. The international economic environment is being transformed by global value chains and is not in line with WTO agreements. Bulgaria's foreign economic orientation must adapt to institutional changes and international regulations (Panusheff, 2020). In her presentation *Daniela Bobeva* aimed at assessing the scope and sustainability of trade imbalances and the macroeconomic factors for their accumulation in Bulgaria. The analysis was led by macroeconomic and structural approach. A regression model was used in order to assess the importance of major factors that drive trade imbalances. The role of imbalances on the economy, i.e. positive as well as negative impact was examined. The analysis suggested that macroeconomic factors have a marginal role in the accumulation of trade imbalances, while structural factors play a decisive role (Bobeva, 2020). *Alexander Tassev* and *Nedialko Nestorov* examined the status, trends and prospects of Bulgaria's high-tech exports. Their view was that in the context of economy's research, high-tech exports are seen as major and promising for the development of a country's exports, which is directly related to its economic growth.

Therefore, an analysis of Bulgarian high-tech exports has been carried out. The results of an examination of its composition and structure, its emerging trends and its outlook were presented (Tassev, Nestorov, 2020). *Rossitssa Rangelova* and *Grigor Sariiski* analysed the export structure in terms of the comparative advantages of the Bulgarian economy, in particular the sectoral structure of the manufacturing industry. The structure of foreign trade and, respectively, the change in the share of high value-added goods was regarded as a major factor determining the competitiveness of the economy and the dynamics of economic growth indicators. It was proved that the opportunities for export-oriented growth in Bulgaria are not optimally used. The reserves for increasing labour productivity and incomes lie in the increase in the shares of individual sub-sectors and products of the higher value-added processing industry, not in the mechanical increase in exports (Rangelova, Sariiski, 2020). *Irena Nikolova* estimated opportunities and challenges for Bulgarian export-oriented sectors in the world economy. With a view that the export-oriented sector's structure of the Bulgarian economy has changed for the last decade as a result of the ICT development and the artificial intelligence implementation in a significant part of the business processes, two main issues were reviewed – the trends in export-oriented sectors development in Bulgaria, and the priorities for their development and better positioning in the international economy (Nikolova, 2020).

*Tatiana Hubenova-Delisivkova* analysed the ***main trends in the development of the EU sovereign bonds market*** after the Global financial crisis and the European sovereign debt crisis. Contradictory tendencies in the synchronisation of the trend of sovereign bonds 10Y of the Euro area countries, as well as of the rest of EU countries were discussed. The problems of divergence trends among EU countries due to differences in the level of sovereign debt and its management in both in the countries of the Eurozone and the EU as a whole were presented as challenges to the further integration process. The EU sovereign debt market issues were revealed in the context of the reforms of the Monetary Union. Bulgaria's participation in the European sovereign bond 10Y market was analysed on the basis of an assessment of the state, development and prospects of government debt management in the medium term, as well as in the context of the preparations for the adoption of the euro (Hubenova-Delisivkova, 2020).

The next round of problems was related to the ***EU's competitive position in world trade and the place of Central and Eastern European countries in the Union's external economic relations***.

*Elena Spasova* discussed the competitive positions of the European Union in global trade by calculating B. Balassa indices of revealed competitive advantages of extra-EU export groups in the period 2011-2018. Conclusions were drawn about the EU's place in global trade, and the factors for its positions were studied, specifically the internal economic imbalances and structural problems of the Community. Possibilities for enhancing the EU's external competitiveness and addressing internal imbalances have been analysed in the context of the multi-speed Europe paradigm (Spasova, 2020). *Desislava Dimitrova* considered a new dividing line of cultural values and economic convergence in the EU. She stated that the cohesion policy within the European Union has led to mixed results in the economic integration of the former socialist countries. While Poland has become an Eastern European economic miracle, Bulgaria remains at the bottom of almost all European charts.

The drastic difference in the success of economic transition in Eastern Europe and emerging North-South division in terms of economic growth requires a new alternative to classical economic theory approach. Therefore, the purpose of the study was to verify if the differences in the cultural values of the Member States are the key to understanding these phenomena. By comparing cultural and economic indicators, an attempt to determine which cultural features play the role of stimulus and which of constraints to economic development in the EU was made (Dimitrova, 2020).

A special place in the panel was given to the presentation of results from the research project within the framework of the ERI-BAS program concerning the ***relations of the economies of the countries of Central and Eastern Europe with China***.

*Iskra Christova-Balkanska* analysed the initiative "One Belt One Road" and the "17+1" format which are part of China's doctrine of expanding political and economic influence globally. She underlined that the penetration of the EU market is of particular importance for China. The "17+1" format, in which 17 countries from Central and South-Eastern Europe, including 12 EU Member States, participate, is a bridge to the realisation of Chinese investment and trade strategy. The intensification of economic relations with this region takes different forms, far exceeding the trade-investment relations between China and the respective countries. In that context, the aim of the study was to reveal the peculiarities of the "17+1" format, the development of trade relations between China and Central and South-Eastern Europe, and the attitude of developed economies and EU institutions to China's expansion (Christova-Balkanska, 2020). *Teodora Peneva* continued with a description and review of the overall strategic framework defining Chinese investment in Europe, its status and real trends, of the strategic documents in China setting out the guidelines for investing abroad, and of Chinese investment trends in Europe by type and sector. A brief conclusion on the factors and development trends of Chinese investment in Europe in the future was provided (Peneva, 2020). *Anton Kostadinov* analysed the problem of US-China trade in goods rebalanced as a result of the trade war which triggered changes in both countries foreign trade relations. The imposition of higher duties by the United States on Chinese goods triggered a backlash, exacerbating trade conflict. The decline in trade between the two countries has had a different effect on national economies. For US manufacturers, this means reducing exports to a major market such as the PRC. The effects for China were to shift production to neighbouring countries that had no trade restrictions on exports to the US (Kostadinov, 2020).

The last round of problems discussed was the ***development of certain regions in the world economy***.

*Iulia Monica Oehler-Sincai* (Romania) estimated BRI potential impact on the economic development in the Indo-Pacific. The analysis was structured around three main objectives. First, it reflected various attitudes towards the BRI, from the perspective of its characteristics and potential impact, both regionally and globally. It was concluded that strong demand for investment in infrastructure and connectivity development, accelerators of regional integration (good for China, but good for the others as well), are the most relevant opportunities associated with the BRI. Second, it underscored China's major role as a trade partner, investor and creditor for countries in the region – even if it is not accepted by players such as the Quad (US-Japan-India-Australia), this is an undeniable reality.

Third, it demonstrated that this "project of the century" has to become a "multilateral initiative led by multiple actors" in order to be supported by key international actors (Oehler-Sincai, 2020). The same author in co-authorship with *Daniel Bulin* (Romania) presented the EU trade and investment relations with Indo-Pacific countries with a view of their contribution to regional projects and national reform programs. The main objective of the research was to identify a number of ways for the EU to intensify its presence in the region, focusing on the case study of the EU-ASEAN cooperation framework. The conclusion was made that in order for this to become a strategic partnership, as underlined in the literature, besides security and multilateralism, concrete cooperation projects are needed (Oehler-Sincai, Bulin, 2020). *Mustafa Özer* and *Aymar B. I. Nana* (Turkey) investigated dynamic relations between selected macroeconomic variables of West African Economic and Monetary Union countries using Panel VECM for the period 1980-2016. They tested first the existence of cross-sectional dependence and then the presence of cointegration and finally carried out Granger Causality tests, impulse response and variance decomposition analysis. The main findings of the study indicated the existence of cointegration among variables and the evidences of short- and long-run causalities. It was noted that the results of the study have important implications for the future and efficiency of the Monetary Union. Especially policymakers of the region should design their economic policies regarding to stabilise inflation and to stimulate growth, they have to take into account of the existence of cross-sectional dependences (Özer, Nana, 2020). *Eduard Marinov* analysed the process of the creation of the largest free trade area in the world. The Agreement establishing the African Continental Free Trade Area entered into force in 2019 and all countries on the continent joined it. If the Agreement works as hoped, it will connect 1.3 Billion people, create a 3.4 Trillion USD economic bloc, and heat up commerce within the continent itself. The presentation aimed at tracing the process of economic integration in Africa, analysing the main features and assessing the potential benefits of the implementation of the African Continental Free Trade Agreement (Marinov, 2020).

## 3. Labour market and social policies

The panel session began from the discussion in the field of ***labour market and employment***.

*Iskra Beleva* examined the main challenges and possible decisions for the regional balance of the labour market in Bulgaria. The main aim of her presentation was to underline the existing regional labour market imbalances, to pay attention to some of the factors, responsible for their increase, as well as to propose possible policies for their decline. The regional labour markets in Bulgaria, with a stress on the balances between regions and in regards to labour supply and demand were the object of the study. Among the main factors, causing regional imbalances, the negative demographic impacts, the specificity of the regional structural transformations and the quality mismatches between labour demand and supply were outlined (Beleva, 2020). *Pobeda Loukanova* presented in details the discrepancies between labour supply and demand on the Bulgarian labour market. She noted that the theme is of permanent interest and with increasing importance in our country, because of the existing shortage of labour force. There is a need for improving the quality

of labour qualification and of its more effective use. Guidelines were proposed to regulate the imbalances between the supplied and demanded skills of labour. The need for more broadly involvement of stakeholders in the process was articulated. Also, the need for better institutionalisation of the process was advocated with a view towards the contemporary requirements to it (Loukanova, 2020). *Margarita Atanassova* treated the issue of the development of the skills of the employees in the enterprises in Bulgaria, which is a traditional priority of the policies for the improvement of the human capital and the continuing education. The research was carried out from the standpoint of the concept of human resources development in organisations and the leading role of employers as a provider of non-formal training. The results of the cluster analysis revealed positive trends in the continuing vocational training of the employed in the enterprises in Bulgaria as an EU member state (Atanassova, 2020). *Venelin Boshnakov* presented the micro-econometric analysis of the subjective wellbeing and labour market status, based on European Social Survey data for Bulgaria. *Monica-Florica Dutcaş* (Romania) continued with the examination of the possibility of building up a set of indicators regarding the sustainability of the labour market. Firstly, the study proposed a sui generis mix of public policies empowered with the designing, implementing, analysing and managing of a dynamic labour market. Secondly, the sufficiency predicates of a sustainable labour market were identified and logically analysed. Thirdly, the paper applied the results concerned by public policies and the sufficiency predicates of the sustainability of the labour market in order to get the minimum set of macroeconomic indicators which could express such sustainability (Dutcaş, 2020). *Gabriela-Mariana Ionescu* (Romania) analysed the functioning of the labour market through the rigidities that influence it. She underlined that in the labour market, there are imperfections that are a significant cause of the rigidities which in turn generate the basic elements of security in such a market. Labour market imperfections could also be viewed as effects of public or private measures to ensure a certain degree of the labor market. The concepts of rigidity, real and nominal rigidity, labour market security and job security were defined. Finally, the taxonomy of job security was proposed and briefly examined (Ionescu, 2020). *Mariana Dimitrova* explored the future challenges of developing employment policies through the lens of quality employment and job quality. This focus has been chosen due to the serious challenges facing the Bulgarian labour market, such as the demographic crisis, the labour shortages in the economy, which are already a constraint on economic growth, and the mismatch between the skills supplied and demanded. Providing higher quality employment depends on the building of a long-term strategic vision to ensure consistent progress in its implementation. Policies that take into account the various aspects of the quality of employment and workplace are of favour not only for the employees but also for the economy and society as a whole (Dimitrova, 2020). The presentation by *Mirjana Radović-Marković* (Serbia) and *Tatjana Vujović* (Montenegro) was oriented towards research aimed at determining the impact of education on the possibilities of employing marginalised groups through the launching of own entrepreneurial businesses or work in social enterprises. A comparative analysis was conducted in Serbia and Montenegro in order to examine similarities and differences in education and its role in the function of reducing the unemployment of marginalised groups and their greater inclusion in society. The study was conducted in two independent samples for Serbia and for Montenegro. The research showed that respondents in Serbia and Montenegro also preferred employment in public enterprises in relation to social

entrepreneurship which is explained by the fact that they are not sufficiently informed about the possibilities that it provides, but also in its insufficient development in both countries. Also, the analysis of test results indicated that marginalised groups expect greater responsibility of the state in terms of resolving their position and putting their problems in the list of priorities (Radović-Marković, Vujović, 2020). *Alla Kirova* evaluated gender balance in employment in the research sphere in Bulgaria and the European Union. She stated that gender equality in research and higher education is defined as a criterion for the achievement of smart and inclusive growth in Europe, to which the European Union implements and refines relevant approaches and policies. A previous study by the author showed that Bulgaria performs well against the European average in this area, although a number of differences in the employment of women and men have been identified. The purpose of that presentation was to track the country's progress in overcoming them after 2013, as well as to conduct a comparative analysis of the situation of women and men in research in Bulgaria and the European Union to determine whether our country retains good performance (Kirova, 2020). *Emil Dinga* (Romania) examined the possibility to build up a new macro-indicator aimed at to quantify both the absolute (as mass) and the relative (as rate) unemployment. The focus of the study concerned the social aspects of the unemployment and, consequently, tried to integrate into the formula of unemployment mass and rate the duration of the unemployment state. Based on such an idea, the study provided some qualitative algebraic analyses in order to put into evidence the value-added of the new way to calculate the unemployment rate (Dinga, 2020).

Next two presentations were devoted to the problems connected to ***migration and its impact on the employment and the human capital***.

*Catalin Corneliu Ghinararu* (Romania) and *Lukasz Arendt* (Poland) presented the narrative approach in the assessment of public employment policies for the return of mobile (migrant) workers in Central and Eastern Europe. In accordance with their view, mobility of workers is one what great gains of the European integration. It is bringing overall benefits to the European economy. However, for most of the home markets in Central and Eastern Europe is generating a host of problems from current deficits of labour to future prospects of the unsustainability of the social protection system and of general economic development. As such, a host of measures and preoccupations have sprung up recently. The authors were inventorying and attempting the assessment of efficiency and efficacy of a number of schemes directed at encouraging the return of mobile workers on their home markets as a way of defusing current deficits. They underlined that it takes a good look also at the sustainability of these measures in the frame of maintaining overall equilibriums as part of growth and stability commitments of EU member states (Ghinararu, Arendt, 2020). *Irena Zareva* presented results from a research, based mainly on representative surveys' data among Bulgarian migrants. Education profile of migrants and their participation in the labour market in the country and abroad were defined. On this basis, conclusions were made about the influence of external migration on the human capital in Bulgaria, and some positive and negative effects were identified (Zareva, 2020).

The third thematic area covered ***substantial aspects of different kinds of incomes and the living standard in Bulgaria***.

*Lyubomir Stefanov* outlined the main trends in employers' labour costs and employee rewards over the period 2006-2018. The main problems of labour costs and rewards have been identified in several ways – lack of sufficient and timely information on the market levels of rewards, the "black" and "gray" labour market, legislation and collective bargaining (Stefanov, 2020). *Vassil Tsanov* analysed the subjective feelings for justice of all kind of incomes and poverty. Perception of poverty was studied in two aspects: first – as a feeling and the second – as a possibility to "two ends meet". The fairness of incomes was assessed for all incomes: earnings, pensions and social assistances. The results showed a high portion of the population, that is dissatisfied from the level of receiving incomes which means that the poverty feeling concerns sizable part of the population and considerable part of people with difficulty to "two ends meet" (Tsanov, 2020). *Aleksandar Kosuliev* analysed the dynamics of the minimal social insurance thresholds, wages and the number of employees in Bulgaria in the period 2012-2017. Some of the difficulties faced by previous research on the question and apply new types of data transformation were outlined, to make the data more suitable for analysis. An applied panel regression model and a t-test did not show that the minimum thresholds have any significant effect on employment (Kosuliev, 2020). The purpose of the presentation by *Lyudmila Vekova* was to consider the challenges to social activities as a mandatory constituent component for the functioning and development of the social protection system in Bulgaria and a form for realising its goals in the context of the current demographic, economic and social processes. The main research objectives were an analytical review and definition of major challenges to the social protection system at global and European level, organisation and management of social activities, as well as a presentation of the most important changes in the scope, organisation and management of social activities in relation to with the defined challenges and legal regulation (Vekova, 2020). In his presentation, *Yordan Hristoskov* deals with the distribution of social transfers as a main tool for diminishing the regional disparities in the living standard in Bulgaria. The subject of the analyses were cash social transfers as per cent of the family incomes, pensions adequacy and unemployment benefits at NUTS-2 and NUTS-3 level in the 2010-2017 period. The discovered disparities by different kind of cash payments among the regions were presented in a specific integral indicator. The regions, which are under the fixed critical benchmark, were pointed out on that basis (Hristoskov, 2020). *Georgi Shopov* examined the territorial disparities of the living standard in Bulgaria in the period 2010-2017. The objective of his presentation was to discuss from a methodological and empirical point of view some questions, related to the definition of the living standard and the quantification of its territorial disparities in Bulgaria. The research tasks were to develop a brief analytical overview of the concepts about the living standard as a specific scientific notion, as well as to present a general picture of the territorial disparities of the living standard in Bulgaria in 2010-2017 (Shopov, 2020).

## 4. Regional and sectoral development. Resources, ecology and sustainable development

The panel discussion focused on four thematic areas. The first one was connected with the ***problems of regional development***.

*Stoyan Totev, Milkana Mochurova* and *Maria Kotseva-Tikova* discussed the applicability of the concept of inclusive development in the context of the situation of Bulgaria. They concluded that there is an increase in regional disparities of key socio-economic indicators in Bulgaria, and this tendency can hardly be reversed, so when examining regional disparities, it is necessary to look for indicators that give a measurable and objective assessment of changes non-contradictory with the requirements of inclusive regional development. A methodology for assessing regional disparities was presented, based on the perceived requirements for inclusive regional development. The criteria for acceptable frameworks for regional differences for selected social, economic and environmental indicators were introduced. Results from the application of this methodology were presented and analysed at NUTS 3 level for Bulgaria (Totev et al., 2020). The aim of the study by *Yuliana Yarkova* and *Petya Atanasova* was to identify the branch structure of the regional economy, by relating it to priority theme areas of smart specialisation. The chosen object to focus on was the Yambol region in Bulgaria. The subject of the study was the indicators reflecting production specialisation – a coefficient of localisation and concentration. The process of change and the trends for the period of 2009-2017 have been traced through shift-share analysis. The results of the study delineated both perspectives for a smart and competitive economy, and current problematic areas expecting to be tackled (Yarkova, Atanasova, 2020). *Ahmed Ramzi Siagh* (Algeria) and *Juliana Hadjitchoneva* argued that the socio-economic diversity characterises the regional development in Bulgaria. Thus, dealing with regional differences continues to be a major challenge for regional development policies. Hence, the study aimed at analysing the socio-economic discrepancies over ten years of development (2007-2017), based on the EU classification of territorial units (NUTS). It applied a multivariate analysis of selected on their relevance to the study's purpose and scope statistical indicators. It had a binary outcome resulting in measuring the correlations that may exist in socio-economic and entrepreneurial context and making a typology of the Bulgarian regions by the level of development and similarities (Siagh, Hadjitchoneva, 2020).

The second thematic area found expression in the presentation by *Milen Baltov*, suggested ***methods for indexing the innovation activities***. He noticed that governments are increasingly making innovation a key issue on policy agendas today, recognising its potential to promote economic growth and address social and environmental challenges. Many countries face significant innovation "gaps", resulting from a variety of binding constraints. The study on the business environment and the regional innovation potential of Yugoiztochen (South Eastern) Planning Region of Bulgaria explored the current regional innovation potential at a macro- and microlevel (at organisational level) in the period 2010-2017. At the same time, it was a starting point for the research to be performed under the Indexing the innovative regional levels in the sectors of the economy project, supported by the National Scientific Fund of the Republic of Bulgaria (Baltov, 2020).

The third round of problems was related to the ***development of particular economic sectors – agrarian sector, food production/food security, bio-economy and organic production, grain sector, waterway transport, health tourism and bee-keeping in Bulgaria***.

*Plamena Yovchevska* made an analysis of land relations in ***Bulgarian agriculture***. A holistic approach in the course of the study to reveal diverse political, economic, socio-

cultural, demographic, etc. processes affecting land relations in Bulgaria was used. A number of problems arising from the transformation of the social model in Bulgaria, from the implementation of Community agricultural policy and national legislation were identified. Opportunities for harmonising national socio-cultural traditions with the changes in the new programming and budgetary period after 2020 were outlined, given the consolidation of the European social model for agriculture and the expansion of its presence in Bulgarian agriculture (Yovchevska, 2020). *Gergana Slavova* examined the sustainable development of the agricultural sector in Bulgaria in the context of the Common Agricultural Policy. She noted that the European Union places the agricultural sector at the heart of its financial perspectives on the future of Europe. The aim of the study was to identify the economic and social elements of sustainability that enable the agricultural sector to continue to thrive and sustainability to this day (Slavova, 2020). *Mihaela Mihailova* suggested an assessment of the regional impacts of Post-2020 CAP: budgetary cuts on production structures and agricultural incomes in Bulgaria. The study analysed the impact of direct support on land prices and rents in the case of Bulgaria. Income annuity was the starting point for estimating the value of agricultural land as a residual value using the FADN method of calculating yield. The regional impact of a hypothetical reduction of 30% and 15% in the EU CAP budget, supplemented by the BREXIT scenario was estimated. To this end, forecasts have been prepared using the Common Agricultural Policy simulation model and changes in agricultural production, as well as changes in income distribution, have been briefly evaluated (Mihailova, 2020).

The concepts of ***food security***, bio-economy, health and bio-food were considered in the economic interaction in the presentation by *Darina Ruscheva, Ognian Boiukliev* and *Petia Branzova*. It was stated that Bulgaria's food security was studied in the context of the membership in the EU, as well as of the possibilities of the agricultural and food storage to meet the demand of the population. The role and importance of bio-agriculture and bio-food in the agricultural sector were justified. The share of healthy foods in the overall structure of consumption and market presence was estimated. Food security policies through the development of the bio-economy were presented (Ruscheva et al., 2020). *Sasha Grozdanova* continued with the issue of the role and location of external ***food resources*** to meet basic nutritional needs. Characteristics of changes directly related to food security arising from contemporary circumstances were presented. The connection of the country's agricultural policy with national food security was considered as an unresolved issue. The specifics, characteristics and problems related to the participation and contribution of imports in meeting basic food needs were highlighted. The need for the function and role of external food resources to be related to the public interest – our national production to be a major source of food and raw materials, was reasoned (Grozdanova, 2020).

*Maria Kotseva-Tikova* and *Milkana Mochurova* noted a fact, that the European Union considers ***bio-economy*** as a key element in search of intelligent and green growth. Bioeconomy has a huge potential for generating and sustaining economic growth and employment in rural regions, as well as in peripheral and industrial regions; for decreasing the dependency upon fossil fuels and improving the economic and environmental sustainability of primary production and processing industry. The presentation discussed the concepts of bio-economy, the mechanisms and approaches of its implementation in order to receive benefits for the national economy. Results for Bulgaria were presented and

analysed (Kotseva-Tikova, Mochurova, 2020). *Petia Branzova* stated that ***organic production*** is a comprehensive system of farm management and food production, contributing to the conservation of natural resources and applies high standards of animal welfare. Organic farming responds to the specific consumer demand for sustainable food products, promoting more sustainable farming practices and contributing to environmental protection and improving animal welfare. The purpose of the presentation was to analyse the development of organic livestock farming in the EU over the last ten years, in the context of existing policies (Branzova, 2020).

*Hristina Harizanova-Bartos* argued that risks in ***grain sector*** are a result of the uncertainty of the factors determining returns in agricultural production, according to the production process which is highly dependent on climatic conditions, and spread of diseases. The consequences of insufficient risk management are reflected in the poor economic situation of producers. The purpose of the study was to analyse the challenges facing the sector in the implementation of risk management strategies, identifying the main risks and their effect on the activity (Harizanova-Bartos, 2020).

The main purpose of the presentation by *Shteryo Nozharov* and *Petya Koralova-Nozharova* was to analyse the integration of the ***Danube inland waterway transport*** to the circular economy. The relationship between the economics of transport and circular economy was studied. Based on statistical data for the transportation of recycling products and plastic waste via Danube inland waterway transport, the possibilities for its development in the light of the circular economy were studied. A review of the waste management policies, implemented at the inland ports situated on the Danube, was made (Nozharov, Koralova-Nozharova, 2020).

The purpose of the study by *Zlatina Karadzova* and *Albena Yanakieva* was to analyse the opportunities of Bulgarian tour operators/travel agents for mediation in the field of ***health tourism***. In order to achieve this goal, a survey was conducted among twenty leading tour operators, to analyse the potential of Burgas District to provide health (prophylactic, spa and medical) tourism services, as well as the interest of their contingent tourists to them (Karadzova, Yanakieva, 2020).

*Lyubomir Lyubenov* treated the issue of product policy of ***bee-keeping farms in region Ruse***. The study determined that the poorly developed product mix in width, length, depth and internal integrity, dominated by the raw-honey, with a comparatively low level of innovation leads to relatively low opportunities for unlocking the potential of distribution, communication, price, innovation and other policies. It was concluded that the quality of bee products could be ensured by certification to a specific standard and branding, while the productivity – through specialisation, concentration and integration which determines the competitiveness of bee products (Lyubenov, 2020).

The last thematic area was referred to some issues of ***ecology***, discussed in two presentations.

*Nadia Marinova* treated the ***economic value of the environment***. She underlined that there are many examples of how ecology affects the economy. Most significant is the impact caused by these changes in nature, which are caused by human economic activity. The total

economic losses incurred in the second half of the 20th century by natural ecosystems, the environment and through them on human health, today far exceed the global annual budget. The practical economy is spontaneously resisting the increasing impact on it of environmental factors and environmental debt. This is because they impose constraints on economic growth and increasingly demand the return of huge credit to nature (Marinova, 2020). *Mohammed Hamza Bengrina, Ahmed Ramzi Siagh and Messaoud Aouinat* (Algeria) discussed the prices rising and other related factors on the decline in fossil fuel consumption and its aspects on ***global warming fight***. It was outlined that in Algeria 41% of total energy and more than 80% of petroleum products is consumed by the transport sector which is the largest emitter of C02, with 46% of total GHG emissions in 2015. The car transport share is 65% of the energy consumed by transport, which represents 24.7% of the total national consumption. These facts confirm that transport is among the activities that contribute to climate change and depletion of non-renewable energy resources. It was underlined that the fight against global warming is the objective № 13 of the 17 Sustainable Development Goals adopted in 2015 by the United Nations General Assembly. Reducing energy consumption is one of the leading ways for this goal. In this context, the aim of the presented study was to measure the influence of the basic economic factors such as prices, income, demographics, fleet, roads, fuel distribution network and other on the level of fuel consumption and demand (Bengrina et al., 2020).

## 5. The company of the 21st century

The last conference panel included the treatment of ***various issues related to the functioning and organisation of different types of activities in the contemporary business sector***.

*Spartak Keremidchiev* and *Miroslav Nedelchev* presented the status of ***corporate governance of state-owned enterprises in Bulgaria*** defined as a leading moment in modern Bulgarian policy and suggested recommendations for its improvement. The conclusions were made that the membership in the European Union and the euro area, as well as future OECD membership, place emphasis on the good practices of SOEs, and the steps taken towards adopting international practices should be supported by learning from the experience of other EU and OECD countries (Keremidchiev, Nedelchev, 2020).

The focus of the study by *Pavlinka Ileva-Naydenova* was on the ***motivating role of culture in the organisation*** to determine the relationship between motivation at work and the value system of the organisation. The main thesis was that if the dominant culture in the organisation could motivate or demotivate, then it would have a positive/negative impact on loyalty and commitment to the organisation, and in this regard would have an impact on its performance, productivity and development. It was articulated that commonly known management mechanism is the strict objective control, using a material incentive and punishment. For its part, however, a good working atmosphere and identification with the organisation predispose to honesty and dedication in the work. Long-term planning creates high levels of security as well as incentives for teamwork, collaboration and career

development. College relationships and trust increase commitment and responsibility to the organisation and the achievement of organisational goals (Ileva-Naydenova, 2020).

***The innovation processes*** were an object of two presentations. *Marica Antovska-Mitev* (North Macedonia) analysed the innovation policies established within the National innovation system of North Macedonia in the period after 2006 based on the treatment of innovation in the modern economic theory as a domain of market failure and positive externality. The focus in the research was on three key segments of the current Innovation Policy in the country: policy for attracting foreign direct invesments, establishment of the Fund for innovation and technology development and the implementation of the Plan for economic growth, adopted in 2018. The main characteristics, strengths and weaknesses of the established innovation policy in North Macedonia were analysed, and some recommendations were given with the aim to overhaul the process of integration of the individual innovation policies in one consistent system of innovation policies. It was concluded that the system should contribute to the fostering of the innovativeness of the Macedonian business sector and of the economy as a whole (Antovska-Mitev, 2020). *Maria Peeva* discussed the necessity of business innovations and the creative role of the human factor through taking into consideration the individual qualities such as: knowledge and skills for innovations, motivation, creativity, capacity and others. In addition, the role of the human factor as a driving force for innovation through the management impact was also grounded, respectively the innovation management policy. It was marked that the creative role of the human factor for innovation requires special attention to a number of processes: knowledge and skills, professional competences, versatility and creativity, managerial and organisational skills for innovation (Peeva, 2020).

*Plamen Tchipev* looked at the ***problem of the relation between the firm and the market***. He analysed the Ronald Coase's concept of the firm, developing in time by some of his most prominent followers and critics. The presentation was focused on the most important aspect of this concept – how the theory of the firm created by Coase relates to the institution of the market. The author underlined that nevertheless of the huge interest and boost on the research, initiated in various directions of the economic theory, this concept has been seriously criticised from many different viewpoints. At the same time, even those who declare acceptance and adherence to its principles revise and deviate it toward directions differing from those projected by its originator (Tchipev, 2020).

*Marko Timchev* proposed models for improving the scientometry, methodology and organisation of ***accounting business analysis of the enterprise***. Methodological problems of information capacity, individual dynamics and models for analysis of the key indicators characterising the activity, financial stability and competitiveness of the enterprise were investigated. A concentric "Accounting Business Analysis in a Balanced Scorecard" model with market positioning (SWOT), Z-Score Analysis and competitiveness analysis were presented. The problems of providing accounting business analysis information in a balanced scorecard through accounting and integrated reporting systems were explored. Models of strategic maps with KPI indicators were presented, characterising the activity at a corporate and intercompany level and by functional points of responsibility (Timchev, 2020).

*Radostina Bakardjieva* disclosed the relevance of ***non-financial performance of companies*** in the context of corporate social responsibility. The reasons for the need to disclosure of information of the firms in this area were identified as well as the competitive advantages that result from it. A statistical database related to non-financial disclosure of the firms in Bulgaria was systematised (Bakardjieva, 2020).

*Tsanko Stefanov* demonstrated a representative research of the ***marketing activities of enterprises in the Veliko Tarnovo region*** operating in the field of services. He noticed that they have a specific marketing toolkit. Indicators, such as main market, segmentation criteria, marketing department in the organisational structure, life cycle method, product levels, pricing methods, price elasticity of company products, common marketing systems, types of advertising were presented (Stefanov, 2020).

The problem of ***digitalisation and its influence on the development, activity and security of modern organisations*** aroused great interest of participants.

*Miroslava Peicheva* pointed out, that the digitalisation has changed modern companies, their organisational and management structure and the nature of their work. Changes not only that they did not spare the activity of human resources, but its role proved to be key to change. Today, this activity must successfully cope with the presence in the workflows (including in the activity of human resources) of artificial intelligence, to analyse a significant amount of data, to promote a new culture of behaviour for the company and its employees, and to promote a policy of lifelong learning, to identify and retain talents, to achieve organisational goals through design thinking and leveraging employee experience. Accordingly the purpose of the study was to analyse the digital transformation of the activity of human resources in the firms of the 21st century and good practices in this regard. Based on the results, conclusions were drawn and recommendations were made for the future of the activity of human resources (Peicheva, 2020). The basic characteristics of the digital age and their influence on leaders in organisations were presented by *Mariya Ivanova*. The role of leaders' digital literacy on the transformation and flexibility of organisations was explored. A model was presented by which organisations can evaluate their overall digital literacy status. It was concluded that the digital transformation of the company is a process that provides a competitive advantage. But it is possible and effective by involving all staff in a process led by digitally literate leaders at all organisational levels (Ivanova, 2020). *Plamen Iliev* stated that the rapid development of the economy, business, market and competition globally requires an increasing investment in the digitalisation of constituent processes, operations and activities. Businesses need them to increase the efficiency of business operations, profits, productivity and develop business models. All this has to do with controlling and auditing business processes. It was noted that the relentless transformational impact of IT will redefine the IT audit function itself and force auditors and control bodies to rethink and change their long-established practices, processes and functions in the digital age. This will no doubt change audits and changes in digital jobs. And this applies not only to the internal audit, but also to the Court of Auditors' audit and tax control. The conclusion was made that the digital innovation and digitalisation are accelerating forwards and in the future, and the audit profession must follow them, and in some respects, be ahead of them. The question, then, is not "whether" the auditor needs to change, but rather "when" or "how fast" (Iliev, 2020). *Valeria Dineva* treated the problems

of cyber risks and cybersecurity. She underlined that the cybersecurity is becoming a priority for modern businesses. Cyberculture, corporate culture and its constituent cultures, such as risk culture, innovation culture, etc., interact and influence each other. A characteristic of modern internal audit is that it "adjusts" its activities and priorities to the priorities and risks of the company. Given the importance of cyberculture and its inherent risks, it is quite naturally within the scope of the internal audit. At the same time, cyberculture poses its challenges to internal audit (Dineva, 2020). The conference was finalised with the presentation by *Sonya Georgieva* on the impact of blockchain technologies on the financial sector. It was stated in it that emerging technologies and innovations are beginning to transform the financial landscape. The results of some key functional parameter analyses showed that blockchain technologies and their applications have gradually evolved from a purely technological tool to a survival concept and are an important part of financial industry development strategies. The contributions from their use are associated with measuring, controlling and fixing the prices of financial services, increasing customer engagement, reducing costs, improving the efficiency of financial processes and maximising profits. This creates unlimited opportunities for financial companies to upgrade or create new financial products and services and change the existing business models (Georgieva, 2020).

The studies presented at the conference contain results, theoretical summaries and solutions to research and applied problems, which are in line with the contemporary achievements of science and practice and develop them creatively. At the end of all panel sessions, lively discussions were held on the views and issues covered in the presentations, as well as good academic practices were exchanged and the decisions of some of the issues discussed were proposed.

At the final, the participants of the conference expressed their gratitude to the leadership of the Institute and to the Organizing Committee for good organisation, creative environment and high scientific value of the jubilee forum. The articles on the presentations are published by the reputable Prof. Marin Drinov Academic Publishing House at BAS (ERI-BAS, 2020).

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# ECONOMIC EFFICIENCY OF REAL SECTOR COMPANIES – NATURE, TYPES, ELEMENTS, INDICATORS AND MODELS

*This paper includes an introduction, four parts and a conclusion. It presents a survey focused on the economic efficiency of real sector companies, i. e. the companies operating in the segments of production, trading and services.*
*The presented research work is based on the Bulgarian legal framework regulating the elements of economic efficiency of companies and the economic efficiency itself. The elements represent useful results (economic effects) such as net sales revenue, total income, sale and corporate profits and corporate expenses and resources (assets, capital and personnel) employed in their realization.*
*The discussed issue is topical and important as the use of corporate resources and incurred corporate expenses are directly related to the useful results generated through such resources and expenses. So, companies may analyze, plan, control and seek options to optimize their economic efficiency.*
*The presentation of economic efficiency in terms of the Bulgarian legislation is based on information reported in the financial statements and certain accounts of companies. As we know, the Commercial Register is freely accessed, so experts at a given company may study the efficiency of their competitors using data presented in their financial statements published in the said Register. That access allows lecturers, analysts, consultants and other professionals to study the economic efficiency of other companies. They may use the indicators and models presented in this work as well.*
*JEL: L20; M20*

## Introduction

In the conditions of the market economy, economic efficiency represents a material aspect of the economic activities of real sector companies. It is related to their useful results (economic effects) and expenses or resources (assets, capital or personnel) employed in the realization of such results. This economic efficiency study focuses on income and profits as they are effects playing a crucial role. There are a number of economic efficiency concepts. This paper, however, presents it as an economic effect realized through employing a unit of

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resources or expenses, i. e. in terms of the Bulgarian legislation regulating the efficiency elements. As mentioned, these are the economic effects such as income and profits and expenses and resources employed in their realization.

Economic efficiency may be divided into four types – capital efficiency, asset efficiency, personnel efficiency and cost-efficiency. The indicators used to measure, analyze, plan and control the economic efficiency of companies are indicators measuring the use and allocation of their resources and expenses to a great extent. In other words, this is the benefits to victims ratio that summarizes the indicators measuring economic efficiency. They also allow assessment of the functioning of companies in the conditions of competition and of their management.

This work focuses on the indicators measuring economic efficiency and models where they are included in addition to other indicators. We do not study the efficiency analysis, planning and control as this requires a research work of a considerably greater volume. We only state that these indicators and models may be used to analyze, plan and control economic efficiency.

In our opinion, the discussed issue has a material importance to company owners as it directly relates to their interests, so they should pay a particular attention in that respect as economic effects are realized through employing certain expenses, which means a reduction of equity (the owners' capital that is available to a company). Moreover, economic effects require corporate resources controlled by the owners. So, the owners or the management body appointed by the owners manage company resources in a way ensuring the satisfaction of their interests, generation of satisfactory profit in particular. Corporate income and profits represent equity increases, while efficiency figures show the income or profits (equity increases) realized through employing a unit of expenses or a unit of resources.

The study object is the economic efficiency of real sector companies (capital efficiency, asset efficiency, personnel efficiency and cost efficiency), while the study subject covers the elements and indicators used for its measurement. The subject also includes models measuring the economic efficiency developed by us in line with the popular DuPont Model. The study subject is discussed in terms of the Bulgarian legal framework regulating the elements of economic efficiency (income, profits, assets, capital, personnel and expenses) and the economic efficiency itself.

According to the study thesis, the definitions of the elements of the economic efficiency of real sector companies given in the Bulgarian legislation provide options to improve the analysis, planning and control of that efficiency. In fact, these legal definitions form the framework for studying the economic efficiency on a theoretical level, which directly affects practice as companies report the information about these elements in line with the said definitions. This paper presents such options. In our opinion, the knowledge and application of them by the management bodies of real sector companies is a prerequisite for more thorough efficiency analysis, planning and control. In the conditions of strong market competition, companies should pay a particular attention to economic efficiency as it measures the useful results generated through a unit of expenses or unit of resources.

The study objective is to present the indicators and models used to plan, analyze and control the economic efficiency of certain types of expenses, capital, assets and personnel. The presented three models are totalities of economic efficiency indicators and are in line with the DuPont Analysis. The application of the presented indicators and models by the management bodies of real sector companies allows them to seek and find options for economic efficiency optimization.

The objective covers the following tasks:

1. Presentation of the legal definitions (as specified in the legal framework) of the economic efficiency elements and their explanation.
2. Study of the nature of economic efficiency of real sector companies in terms of the Bulgarian legislation regulating such elements through indicators measuring capital efficiency, asset efficiency, personnel efficiency and cost efficiency.
3. Clarification of the presented indicators and models of indicators in terms of the interests of companies and their owners and personnel.
4. Substantiation of the necessity of thorough knowledge of the aspects of economic efficiency by company experts involved in its measurement, analysis, planning and control.

This paper is based on traditional research methods such as analysis, synthesis, induction and deduction and the logical, systematic, comparative and regulatory approaches.

The following restrictions apply to this paper:

- It does not discuss the analysis, planning and control of the economic efficiency of real sector companies as this requires a research work of a considerably greater volume.
- It presents only a study of the economic efficiency nature and related types, elements, indicators and models that represent totalities of indicators.
- It summarizes the economic efficiency concepts, but the study is in line with the Bulgarian legislation regulating the elements of economic efficiency. Thus, companies may apply the efficiency types and measurement indicators and models presented in this work. Economic efficiency is not studied in terms outside the Bulgarian legal framework.

In our opinion, this work will be useful to company managers and experts dealing with the aspects of economic efficiency and research professionals interested in such aspects.

## Part One. Nature of the economic efficiency. Types and elements of the economic efficiency and applicable legislation

We will present a brief description of various theoretical concepts of economic efficiency followed by its explanation in terms of the Bulgarian legislation, which allows practical work, i. e. measurement, planning, analysis and control of company efficiency, using relevant indicators.

In the remote past, the famous Bulgarian economist Dimitar Dobrev published a book (1941) stating that "each management ability will be a relative correlation of two comparable values – the usefulness value and the victim-giving value:

$$Management\ ability\ = \frac{Benefits}{Victims}$$

Such correlation may be static (profit to capital ratio) or dynamic (revenue to expenses ratio)".

Over the following decades, the term "management ability" was replaced by the term "economic efficiency" as it did not establish itself as a theoretical or practical concept. In the past, National Accounting Standard 13. Indicators for Financial and Accounting Analysis, including certain indicators measuring the economic efficiency, applied. However, it was repealed.

It should be noted that there exist, theoretically and practically, terms such as social efficiency, social and economic efficiency, technical efficiency, ecological efficiency, tourism efficiency, health care efficiency and others in addition to economic efficiency. However, this work covers economic efficiency only.

A number of authors have discussed the aspects of economic efficiency, including Hatry & Fisk (1971), Pidley & Simon (1938), (1971), Astahov (1975), Holland (1983), Angelov (1986), Ahanov (1987), Barilenko (1990), Soul (1990), Behrens & Hawranek (1991), Kr. Georgieva (1991), G. Raykov (1996), D. Pol (1998), Body (2000), Ivanova & Todorov (2008) and others. In his research work published at the end of the last century (1999) in the USA, Stephan Loh studies the relationship between economic efficiency and economic indicators such as interest rate, inflation rate, performance growth rate, etc. and develops a theory of economic efficiency relating economic efficiency to the indicators that measure it.

We will also discuss some authors who published works studying the economic efficiency over the current century. According to Prof. Statev (2011), it represents "a dependence between the consumption of the limited factors of production and the satisfied needs with the goods produced by them – with minimum costs to satisfy maximum needs". He also presents several types of economic efficiency and states that "an ideal economic efficiency only exists in a theoretical model predominated by perfect competition".

In the opinion of authors such as K. Mitov, R. Koleva, M. Gergova and G. Doncheva (2012), efficiency is based on the juxtaposing of benefits and expenses that presupposes commensuration of generated results against used resources.

In their work Evaluation of Economic Effectiveness of the State Purchases System: Criteria and Priorities (2017), Aleksey Bogoviz, Yulia Ragulina and others discuss the economic efficiency on a national level, the efficiency of state purchases in modern Russia in particular.

In their study focused on the efficiency of real estate companies in Malaysia (2019), Abdullah, Maamor and Karim use the contemporary Data Envelopment Analysis (DEA) and the Tobit Model and present the analysis of the efficiency of 67 real estate companies listed on the Kuala Lumpur Stock Exchange.

An Encyclopædia Britannica article (www.britannica.com/topic/efficiency-economics-and-organizational-analysis) states the following: Efficiency, in economics and organizational analysis, a measure of the input a system requires to achieve a specified output. A system that uses few resources to achieve its goals is efficient, in contrast to one that wastes much of its input".

Many companies in Bulgaria and around the world apply the International Accounting Standards (IAS), which are accompanied by the Framework for the Preparation and Presentation of Financial Statements issued in July 1989 by the International Accounting Standards Committee (IASC) transformed into the International Accounting Standards Board (IASB) at a later stage. The IAS and the Framework are issued in Bulgarian by the Institute of Certified Public Accountants. Their translated texts have been published by ForCom (1999). In accordance with Paragraph 17 of the Framework for the Preparation and Presentation of Financial Statements (1999), "Information about the performance of an entity, in particular its profitability, is required in order to assess potential changes in the economic resources that it is likely to control in the future. Information about variability of performance is important in this respect. Information about performance is useful in predicting the capacity of the entity to generate cash flows from its existing resource base. It is also useful in forming judgments about the effectiveness with which the entity might employ additional resources". In accordance with Paragraph 69 of the Framework, "Profit is frequently used as a measure of performance...".

The net sales revenue, sales profit, total income and final financial result (corporate profit) are economic effects of material importance to real sector companies.

Further, in this paper, we discuss the economic efficiency of real sector companies in terms of the Bulgarian legal framework (allowing its measurement, analysis, etc., as mentioned).

Economic efficiency is a useful result, realized through employing a unit of expenses or a unit of resources (average availability). The values of such efficiency are calculated using the economic effect to expenses and economic effect to resources (capital, assets and personnel) correlations. However, it defines the elements of economic efficiency, including the economic effects (income and profits) and the resources (equity, assets and personnel) employed in their realization. As to resources, borrowed capital and total capital are also discussed further in this paper. The Bulgarian legislation also gives a definition for expenses (as an economic efficiency element) that are employed to realize certain effects.

In particular, the National Accounting Standards (NAS) and the General Provisions thereto became effective on 1 January 2005. They were adopted by Decree No 46 of the Council of Ministers dated 21 March 2005 and amended later (2007, 2016). The NAS General Provisions provide for definitions (legal definitions) of the elements of economic efficiency, including income, sales profit and corporate profit, assets, equity and borrowed capital (in fact, the definition is for liabilities, but they are forms of that capital). We do not mention these definitions in the study, as we believe it is not a problem for readers to get acquainted with them.

It is a financial concept of equity provided for in the framework for the Preparation and Presentation of Financial Statements issued by IASC (present name: IASB). In accordance

with Paragraph 102 of that Framework, "Under a financial concept of capital, such as invested money or invested purchasing power, capital is synonymous with the net assets or equity of the entity". In other words, equity is money invested in a company by its owners and used by such company, while some assets represent manners of spending or a pecuniary form of such equity.

In the context of that financial concept, borrowed capital may be regarded as money invested in a company by non-owners (bondholders, etc.) and used by such company, while some assets represent forms of spending such capital.

Personnel is also an element of the economic efficiency of a company. In the Methodology for Calculation of the Average Number of Employees as per list approved by the National Statistical Institute (NSI) with NSI Chairman Order No РД 07-21 dated 31 March 2007 defines "number of employees as per list" and "average number of employees as per list."

In general, the Law on Accountancy, the NAS and the IAS cover a number of issues relating to income, expenses and other economic efficiency elements. The Law on Accountancy, the Government Decrees on NAS and the European Union (EU) Regulations on IAS constitute the legal framework for the economic efficiency discussed in this paper.

These Regulations are binding legislative acts, which are to be applied by all EU Members States. Illustration of the elements of economic efficiency and their legal definitions (Figure 1.).

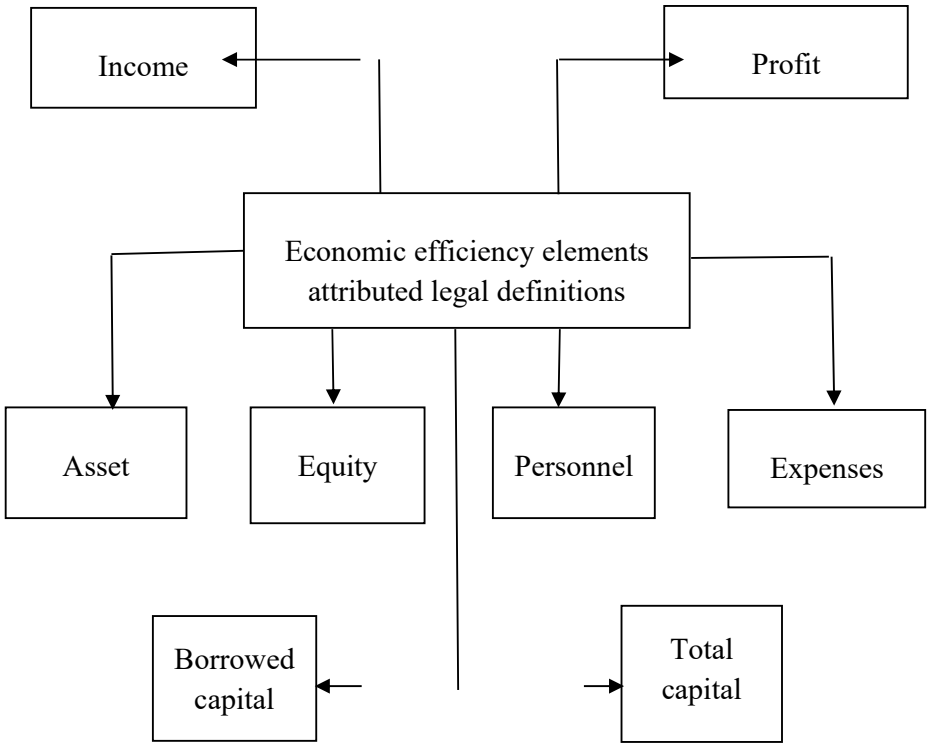
The figure below presents economic efficiency in terms of the Bulgarian legislation and we consider it a solid argument to discuss the aspects of economic efficiency of real sector companies on such basis (Figure 2.).

The correlation measuring capital efficiency uses the average carrying amount of equity, borrowed capital or total capital (equity + borrowed capital). The correlation measuring asset efficiency uses the average carrying amount of different assets (that will be presented when discussing the indicators measuring asset efficiency). It is clarified that the average carrying amounts of capital and assets are calculated through dividing the total of respective carrying amounts at the beginning and at the end of the period by 2. The correlation measuring personnel efficiency uses the average number of employees as per list calculated in accordance with the Methodology for Calculation of the Average Number of Employees as per List.

The economic effects such as net sales revenue, total income, sales profit and corporate profit and the capital, assets, personnel and expenses employed in their realization are reported in the annual financial statements. They constitute a source of information when presenting the economic efficiency. The accounts that report the effects, expenses and resources (excluding personnel, which is accounted for through specific documents) also constitute sources of information.

Figure 1

Economic efficiency elements in terms of the Bulgarian legal framework




*Note: Borrowed capital represents liabilities and equals their total amount. Hence, that concept of borrowed capital is closely related to the liability legal definition.*
*Total capital equals the sum of equity and borrowed capital (liabilities). That definition is closely related to the equity and liability legal definitions.*

Figure 2

Types of economic efficiency and regulatory basis

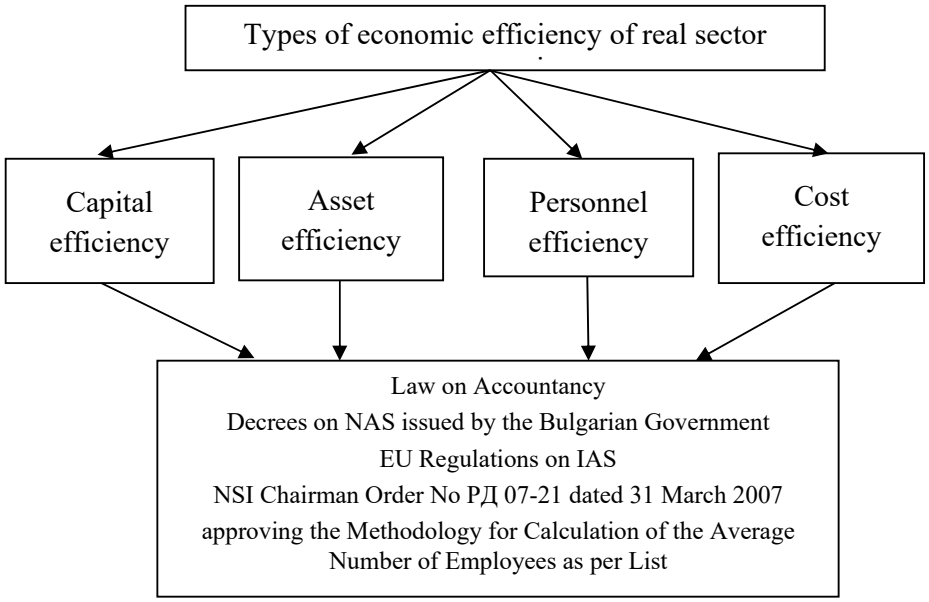
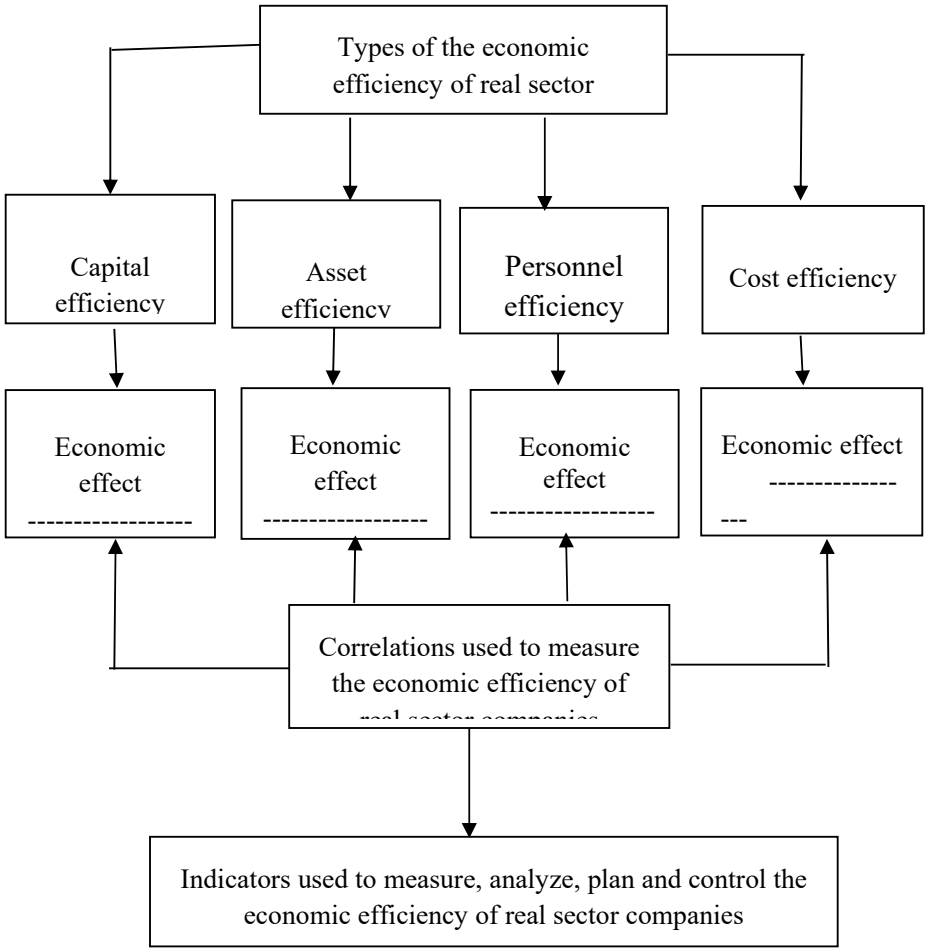



Figure 3 shows the relation between the types of economic efficiency and the elements of economic efficiency used in the economic efficiency correlations and the indicators that are specific expressions of such correlations.

The correlation measuring capital efficiency uses the average carrying amount of equity, borrowed capital or total capital (equity + borrowed capital). The correlation measuring asset efficiency uses the average carrying amount of different assets (that will be presented when discussing the indicators measuring asset efficiency). It is clarified that the average carrying amounts of capital and assets are calculated through dividing the total of respective carrying amounts at the beginning and at the end of the period by 2. The correlation measuring personnel efficiency uses the average number of employees as per list calculated in accordance with the Methodology for Calculation of the Average Number of Employees as per List.

Figure 3

Types of and correlations and indicators measuring the economic efficiency of real sector companies in terms of the Bulgarian legislation

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The economic effects in the formulas used to calculate the indicators measuring economic efficiency are described further in this work.

Economic effects include the corporate profit (useful result) that represents the final operating result of a company for a particular period, the corporate income that equals the total of all revenues realized over a particular period, the net revenue from sales of finished

products (typical to industrial companies that create and sell finished products), the net revenue from sales of goods (generated by commercial companies that buy and sell products used as means of payment that are treated as goods) and the net revenue from sales of services (realized by companies operating in the segment of services, including transportation, repairs and others, that create and sell services, i. e. non-material finished products).

The main activities performed by industrial and commercial companies and service providers represent industrial, commercial and services creation respectively. That should be considered as some indicators presented below concerns such main activities. In practice, companies generate the net sales revenue, which usually occupies the biggest relative share of their total income, through their main activities.

The profit from sales of finished products is the economic effect representing the positive difference between the net revenue from sales of finished products realized over a particular period and the related total expenses reported for the same period. The total expenses include the cost (and/or other value) of the finished products sold, the administrative expenses and the direct expenses related to sales for the same period. Finished products are valued at cost (the expenses employed in their realization) and include total expenses, if sold. However, they may remain unsold over a particular period where they are subject to revaluation in accordance with the applicable accounting standards. As a result, finished products may be attributed to a value that differs from their cost. That value is included in the total expenses following the sale realization. There is also a scenario where a portion of the finished products is sold at cost and another – at another value over the same period. Formulas used to calculate the profit from sales of finished products:

$$Profit\ from\ sales\ of\ finished\ products = \\ = Net\ revenue\ from\ sales\ of\ finished\ products \\ - Total\ expenses\ relating\ to\ finished\ products$$

$$Profit\ from\ sales\ of\ finished\ products = \\ = Net\ revenue\ from\ sales\ of\ finished\ products \\ - (Cost\ and/or\ other\ value\ of finished\ products\ sold \\ + Administrative\ expenses \\ + Direct\ expenses\ relating\ to\ sales\ of finished\ products)$$

Commercial companies generate an economic effect in the form of profit from the sales of goods. It is the positive difference between the net revenue from sales of goods and the total expenses, i. e. the total expenses relating to the goods sold, over the same period. They include the carrying amounts of goods sold, the cost of commercial activity (expenses employed in commercial operations) and the administrative expenses over the same period. Formulas used to calculate the profit from sales of goods:

$$Profit\ from\ sales\ of\ goods = \\ = Net\ revenue\ from\ sales\ of\ goods \\ - Total\ expenses\ relating\ to\ goods$$

$$Profit\ from\ sales\ of\ goods = \\ = Net\ revenue\ from\ sales\ of\ goods \\ - (Carrying\ amount\ of\ goods\ sold \\ + Cost\ of\ commercial\ activity + Administrative\ expenses)$$

Companies in the sector of services generate an economic effect in the form of profit from sales of services. It is the positive difference between the net revenue from sales of services and the total expenses, i. e. the total expenses relating to the services sold, over the same period. They include the carrying amounts of services sold (the expenses employed in their creation), the administrative expenses and the direct expenses relating to the sale of services over the same period. Formulas used to calculate the profit from sales of services:

$$Profit\ from\ sales\ of\ services = Net\ revenue\ from\ sales\ of\ services - \\ Total\ expenses\ relating\ to\ services$$

$$Profit\ from\ sales\ of\ services = Net\ revenue\ from\ sales\ of\ services - \\ (Cost\ of\ services\ sold + Administrative\ expenses + \\ Direct\ expenses\ relating\ to\ sale\ of\ services)$$

Where a company carries out all of the aforementioned activities (industrial, commercial and provision of services), the administrative expenses over a particular period should be allocated in a specific manner when calculating the profit types based on a criterion such as the relative sales share of their total amount. Example: if the net profit from sales of finished products, of goods and of services form respective relative shares of 40%, 35% and 25% of the total net revenue from sales over a particular period, the administrative expenses for the same period should be allocated in the following manner: 40%, 35% and 25% of them are included in the calculation of the total expenses relating to the finished products, goods and services sold.

The sales profit affects the corporate profit (final financial result) as it is one of its forming factors. The formula, used to calculate the corporate profit:

$$Corporate\ profit = (Sales\ profit + Financial\ income) - (Financial\ expenses + \\ Tax\ expenses)$$

In other words, four key factors affect the corporate profit. One of these factors is the sales profit whose increase or decrease result in a higher or lower value of the corporate profit, respectively. In most case, the sales profit reports the highest value compared to the other three factors. Hence, it plays a crucial role as to the formation of corporate profit.

Where a company realizes two or three types of such profit, they are used in the calculation of corporate profit.

**Part Two. Resource efficiency**

Resource efficiency is calculated through the economic effect on resources correlation. The indicators that are specific expressions of such correlation are given further in this paper. Let us start with the indicators measuring equity efficiency:

$$Ratio\ of\ equity\ \ efficiency\ taking\ into\ account\ corporate\ income = \frac{Corporate\ income}{Equity} \quad (1)$$

$$Ratio\ of\ equity\ \ efficiency\ taking\ into\ account\ corporate\ profit = \frac{Corporate\ profit}{Equity} \quad (2)$$

As this work discusses a number of efficiency indicators, we consider it sufficient to present these two indicators calculated through the corporate income and profit as summarizing economic effects.

Taking into account corporate income or profit means that the ratios are calculated using them as economic effects.

The formula used to calculate indicator 1 includes the total corporate income over a particular period as a numerator, while the formula used to calculate indicator 2 includes the corporate profit over a particular period (the positive difference between the corporate income and expenses) as a numerator.

Both formulas use the average carrying amount of equity for the period, over which the economic effects are realized, as denominator – it is calculated through dividing the total of such amounts at the beginning and at the end of the period by 2.

These indicators are based on correlations of certain economic effects to equity, which represents an item of resources employed in the realization of such effects. The indicator figures show the effect values realized through average capital of BGN 1 (these indicators may be calculated in other currencies such as EUR or USD).

The increase in equity efficiency is directly related to the interests of company owners as average equity of BGN 1 is employed in the realization of higher-value effects (income and profits) that represent increases in the capital held by owners. In other words, the average equity of BGN 1 is employed in the realization of a higher equity increase over a particular period compared to the proceeding one.

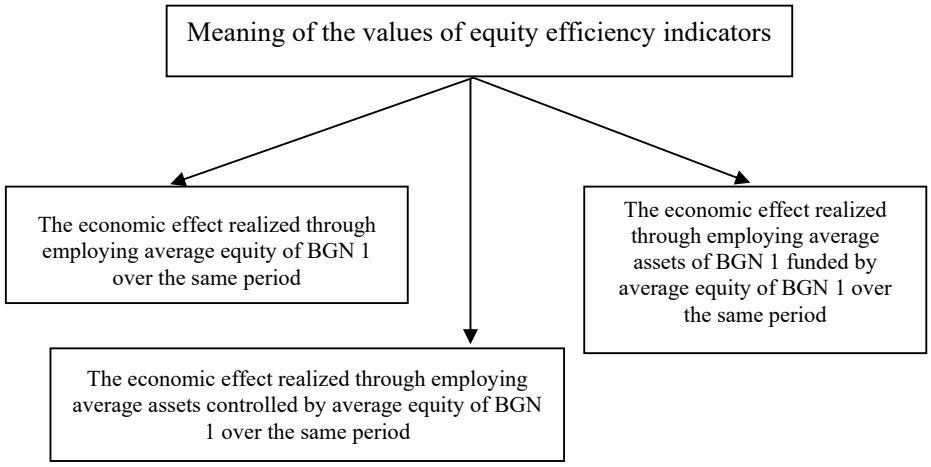
The assets equaling the equity amount represent manners of spending or a pecuniary form of such equity. These assets may be defined as equity-funded. Respectively, the values of equity efficiency indicators for a particular period show the corresponding economic effects realized through employing average equity of BGN 1 or average equity-funded assets of BGN 1. These indicators also show the effects realized through using assets controlled by the average equity of BGN 1. In other words, there is an equity ratio (calculated through the correlation of the average assets and average equity for a particular period) that shows the average assets per average equity of BGN 1, i. e. the assets controlled by (the holder of)

average equity of BGN 1. What is the reason? Assets are generally resources controlled by a company. Specifically, they are under the control of company owners, i. e. the equity holders. Owners manage the assets directly where they participate in the company operational management or indirectly where they have appointed a management body that deals with these assets. Hence, equity holders control the assets of a company in the capacity of owners and the equity ratio shows the average assets controlled by (the holder of) average equity of BGN 1.

So, if the equity efficiency ratio (taking into account the corporate income) is 1.25 for a particular period, the average equity of BGN 1 is employed in the realization of income of BGN 1.25. But an equity ratio (assets to equity) of 1.90 for the same period means that average equity of BGN 1 controls average assets of BGN 1.90 or average assets of BGN 1.90 controlled by average equity of BGN 1 are employed in the realization of income of BGN 1.25. As demonstrated, there is a difference between equity-funded assets (the assets equaling the equity amount) and assets controlled by equity holders (the total company assets). The above presentation of equity efficiency indicators may be illustrated as follows in Figure 4.

Figure 4

Meaning of the values of equity efficiency indicators




A brief clarification of company owners is given below. It is known that the owner of a piece of property has the right to take discretionary actions as to such ownership. As to company owners (equity holders), they may act in relation to the company at own discretion. They elect the company management body and make decisions on profit allocation and a number of other material corporate issues. In other words, the company is a field of discretionary actions for equity holders in their capacity of owners.

Borrowed capital efficiency is the economic effect realized through employing average borrowed capital of BGN 1 over the same period. Where income and profits are used as economic effects, the borrowed capital efficiency represents an equity increase employing average borrowed capital of BGN 1.

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Some of the indicators measuring borrowed capital efficiency are as follows:

$$\textit{Ratio of borrowed capital efficiency, taking into account corporate income} = \frac{Corporate\ income}{Borrowed\ capital} \quad (3)$$

$$\textit{Ratio of borrowed capital efficiency, taking into account corporate profit} = \frac{Corporate\ profit}{Borrowed\ capital} \quad (4)$$

There are many other indicators measuring borrowed capital efficiency, but we consider these sufficient for the purposes of this work.

Similar to the calculation of equity efficiency indicators, the ratios of borrowed capital efficiency are calculated, taking into account the corporate income and profit as economic effects.

The formulas use the average carrying amount of borrowed capital for the period, representing the value calculated through dividing the total of its values at the beginning and at the end of the period by 2, as a denominator. The carrying amount of borrowed capital is the total of company liabilities at the beginning and at the end of a particular period, respectively.

We will not discuss net sales revenue and sales profit as they are clarified in the presentation of equity efficiency indicators.

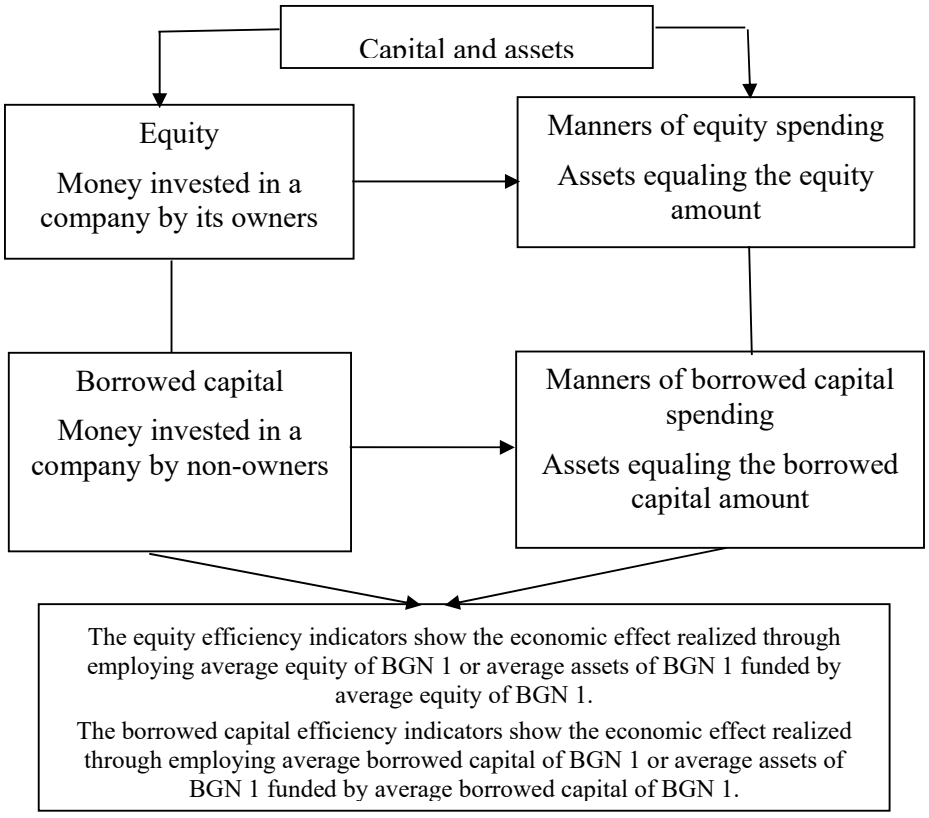
The increase in borrowed capital efficiency for a particular period is in the interest of owners as this means that average borrowed capital of BGN 1 is employed in the realization of greater effect – a higher-value corporate income or profit for such period compared to the preceding one. In other words, average borrowed capital of BGN 1 is employed in the realization of a higher equity increase compared to the preceding period.

The following figure illustrates the correlation of capital, assets and indicators measuring capital efficiency that show the economic effects realized through employing average capital of BGN 1 and average capital-funded assets of BGN 1 respectively (see Figure 5).

Total capital efficiency is the economic effect realized through employing average total capital of BGN 1 over the same period. Where such effects are the income and profits, it may be defined as an equity increase realized through employing average total capital of BGN 1 over a particular period.

Figure 5

Capital efficiency and efficiency of capital-funded assets

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The indicators measuring total capital (equity + borrowed capital) efficiency are generally the same as those measuring equity efficiency and borrowed capital efficiency:

*Ratio of total capital, taking into account corporate income* $= \frac{Corporate\ income}{Total\ capital}$ (5)

*Ratio of total capital, taking into account corporate profit* $= \frac{Corporate\ profit}{Total\ capital}$ (6)

These formulas use the average carrying amount of total capital (calculated through dividing the total of its values at the beginning and at the end of the period by 2) as a denominator.

Total capital equals the sum of equity and borrowed capital. However, a company may avail with other forms of capital such as financing and/or deferred income. In such case, they are included in the calculation of total capital.

The increase in total capital efficiency for a particular period is in the interest of owners as this means that average total capital of BGN 1 is employed in the realization of greater effect – a higher equity increase for such period compared to the preceding one.

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Asset efficiency is the economic effect realized through employing average assets of BGN 1 over the same period. In other words, it represents an equity increase employing average assets of BGN 1 over a particular period.

Some of the indicators measuring asset efficiency, in particular, that of fixed assets (FA), tangible fixed assets (TFA) and current tangible assets (TCA) such as raw materials, finished products and goods, using the total income, corporate profit, net sales revenue and sales profit as economic effects, are:

*Ratio of FA efficiency, taking into account total income*

$$= \frac{Total\ income}{Fixed\ assets} \quad (7)$$

*Ratio of FA efficiency, taking into account corporate profit*

$$= \frac{Corporate\ profit}{Fixed\ assets} \quad (8)$$

*Ratio of efficiency of TFA used in the course of ordinary activity, taking into account net sales revenue*

$$= \frac{Net\ sales\ revenue}{TFA\ used\ in\ the\ course\ of\ ordinary\ activity} \quad (9)$$

*Ratio of efficiency of TFA used in the course of ordinary activity, taking into account sales profit*

$$= \frac{Sales\ profit}{TFA\ used\ in\ the\ course\ of\ ordinary\ activi} \quad (10)$$

*Ratio of efficiency of raw materials*

$$= \frac{Net\ revenue\ from\ sales\ of\ finished\ products}{Raw\ materials} \quad (11)$$

*Ratio of efficiency of raw materials,*

$$= \frac{Profit\ from\ sales\ of\ finished\ products}{Raw\ materials} \quad (12)$$

*Ratio of efficiency of finished products, taking into account net revenue from sales of finished products*

$$= \frac{Net\ revenue\ from\ sales\ of\ finished\ products}{Finished\ products} \quad (13)$$

$$\textit{Ratio of efficiency of finished products, taking into account profit from sales of finished products} = \frac{Profit\ from\ sales\ of\ finished\ products}{Finished\ products} \quad (14)$$

$$\textit{Ratio of efficiency of goods, taking into account net revenue from sales of goods} = \frac{Net\ revenue\ from\ sales\ of\ goods}{Goods} \quad (15)$$

$$\textit{Ratio of efficiency of goods taking into account profit from sales of goods} = \frac{Profit\ from\ sales\ of\ goods}{Goods} \quad (16)$$

*Note: The average carrying amounts of respective assets are used as denominators. Ratios are calculated on the basis of various economic effects, i.e. taking into account such effects – for example: taking into account sales revenue or sales profit.*

The formula used to calculate indicator 9 includes the total of net revenue from sales of finished products, net revenue from sales of goods and net revenue from sales of services (where a company realizes all of them) as a numerator and the average carrying amount of TFA, employed in the three main activities (industrial, commercial and provision of services), as a denominator. Where a company reports two of these types of net revenue, their total is used as numerator and the average carrying amount of TFA, employed in the respective two activities, as a denominator. Similarly, if only one type of net revenue is realized, the formula uses only its value and the average carrying amount of TFA employed in the particular main activity.

The same logic applies to the nominator and denominator of the formula calculating indicator 10. The nominator includes the total of the three types of sales profit or two or one of them, while the denominator includes the carrying amounts as presented in relation to indicator 9.

As mentioned, the main activity of a company is the one generating the biggest relative share of its total income. A company may carry out two or more main activities – industrial and commercial, industrial and repair, construction and assembly and/or agricultural.

Industrial companies may use indicators 11 through 14. It should be noted that raw materials form the material substance of finished products (there are also secondary materials and others).

The increase in asset efficiency for a particular period is in the interest of owners as this means that average assets of BGN 1 are employed in the realization of a higher equity increase for such period compared to the preceding one.

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Personnel efficiency is the economic effect realized through employing average personnel of one person over the same period, i. e. average personnel of one person of all personnel members or average personnel of one person of all key personnel (personnel involved in the main activity) members. Where corporate income and profits are used as economic effects, such efficiency represents an equity increase employing average personnel of one person.

Some of the indicators measuring personnel efficiency, using corporate profit, total income, sales profit and net sales revenue as economic effects, are:

$$\textit{Ratio of personnel efficiency, taking into account corporate income} = \frac{Corporate\ income}{Average\ number\ of\ employees\ as\ per\ list} \quad (17)$$

$$\textit{Ratio of personnel efficiency, taking into account corporate profit} = \frac{Corporate\ profit}{Average\ number\ of\ employees\ as\ per\ list} \quad (18)$$

$$\textit{Ratio of key personnel efficiency, taking into account net sales revenue} = \frac{Net\ sales\ revenue}{Average\ number\ of\ employees\ as\ per\ list} \quad (19)$$

$$\textit{Ratio of key personnel efficiency, taking into account csales profit} = \frac{Sales\ profit}{Average\ number\ of\ employees\ as\ per\ list} \quad (20)$$

*Note: Ratios are calculated on the basis of various economic effects, i.e. taking into account such effects – for example: corporate income and profit, net sales revenue and sales profit.*

The average numbers of employees and of key employees (employees involved in the main activity) of a company are calculated in accordance with the Methodology for Calculation of the Average Number of Employees as per List approved with NSI Chairman Order No РД 07-21 dated 31 March 2007.

In fact, the indicators measuring personnel efficiency constitute a specific expression of the following correlation:

$$\textit{Personnel efficiency} = \frac{Increase\ in\ owners'wealth}{Personnel\ employed\ in\ owners'wealth\ increase} \quad (21)$$

*Note: The wealth of owners is the equity.*
*The increase in owners' wealth is in the form of income and profits.*
*The correlation becomes specific through these indicators by using particular economic effects (corporate income and profit, net sales revenue and sales profit) as a numerator and the average numbers of employees and of key employees as per list as a denominator.*

Man-hours and man-days may also be used as denominators when calculating the indicators measuring personnel efficiency.

The increase in personnel efficiency for a particular period is in the interest of owners as this means that average (key) personnel of one person is employed in the realization of a higher equity increase for such period compared to the preceding one.

The increase in key personnel efficiency is beneficial to a company. For example: where the main activity is industrial, the higher net revenue from sales of finished products attributable to average key personnel of one person over a particular period compared to the preceding one enables higher cash proceeds attributable to average key personnel of one person, which is a prerequisite for higher remunerations of such personnel.

The increase in key personnel efficiency under other equal conditions results in higher efficiency of personnel as a whole. The increase in personnel efficiency provides the option to pay higher remunerations to the personnel members not involved in the main activity. These members have certain official duties and contribute to the increase in personnel efficiency through their work.

**Part Three. Cost efficiency and related corporate benefits**

Cost efficiency is the economic effect realized through employing average expenses of BGN 1 over the same period. Formula:

$$\textit{Cost efficiency} = \frac{Economic\ effect}{Expenses} \tag{22}$$

As mentioned, income and profits represent economic effects in the form of equity (owners' wealth) increases.

On the other hand, corporate expenses represent equity decreases. The correlation may be transformed as follows:

$$\textit{Cost efficiency} = \frac{Equity\ increase}{Equity\ decrease} \tag{23}$$

Cost efficiency (taking into account the corporate income and profits as effects) may be defined as equity (owners' wealth) increase, employing an equity decrease of BGN 1. Therefore, cost efficiency is directly related to the interests of owners as an equity decrease of BGN 1 is employed in the realization of a higher equity increase.

Further in this work, we present a number of indicators measuring cost-efficiency, that are specific expressions of the following correlations (already mentioned):

$$\textit{Ratio of efficiency of costs of depreciation of TFA used in the main activity, taking into account net sales revenue} = \frac{Net\ sales\ revenue}{Cost\ of\ depreciation\ of\ TFA\ used\ in\ the\ main\ activity} \quad (24)$$

$$\textit{Ratio of efficiency of costs of depreciation of TFA used in the main activity, taking into account sales profit} = \frac{Sales\ profit}{Cost\ of\ depreciation\ of\ TFA\ used\ in\ the\ main\ activity} \quad (25)$$

$$\textit{Ratio of efficiency of cost of raw materials, taking into account net sales revenue} = \frac{Net\ revenue\ from\ sales\ of\ finished\ products}{Cost\ of\ raw\ materials} \quad (26)$$

$$\textit{Ratio of efficiency of costs of raw materials, taking into account sales profit} = \frac{Profit\ from\ sales\ of\ finished\ products}{Cost\ of\ raw\ materials} \quad (27)$$

$$\textit{Ratio of efficiency of key personnel costs, taking into account net sales revenue} = \frac{Net\ sales\ revenue}{Key\ personnel\ costs} \quad (28)$$

$$\textit{Ratio of efficiency of costs of raw materials, taking into account sales profit} = \frac{Sales\ profit}{Key\ personnel\ costs} \quad (29)$$

*Note: The figures used as nominators and denominators refer to the same period.*
*Key personnel costs equal the total of remuneration costs and social security costs for the same period.*
*Ratios are calculated on the basis of various economic effects, i. e. taking into account such effects – for example: taking into account sales revenue or sale profit.*

The net sales revenue, sales profit and tangible fixed assets (TFA) employed in the main activities have already been clarified.

The formulas calculating these indicators use depreciation costs, costs of raw materials and personnel costs – this classification is type-based and includes some other costs. In other words, these indicators measure cost efficiency based on cost type. However, costs are also classified based on functional designation (cost, administrative expenses, etc.). So, there are indicators measuring cost efficiency based on the cost function. Some of them are:

*Ratio of efficiency of the cost of finished products sold, taking into account net sales revenue*

$$= \frac{Net\ revenue\ from\ sales\ of\ finished\ products}{Cost\ of\ finished\ products\ sold} \quad (30)$$

*Ratio of efficiency of the cost of finished products sold, taking into account profit from sales of finished products*

$$= \frac{Profit\ from\ sales\ of\ finished\ products}{Cost\ of\ finished\ products} \quad (31)$$

*Ratio of efficiency of the cost of goods sold, taking into account net revenue from sales of goods*

$$= \frac{Net\ revenue\ from\ sales\ of\ goods}{Cost\ of\ commercial\ activity + Carrying\ amount\ of\ goods\ sold} \quad (32)$$

*Ratio of efficiency of the cost of goods sold, taking into account profit from sales of goods*

$$= \frac{Profit\ from\ sales\ of\ goods}{Cost\ of\ commercial\ activity + Carrying\ amount\ of\ goods\ sold} \quad (33)$$

*Ratio of efficiency of the cost of services sold, taking into account net revenue from sales of services*

$$= \frac{Net\ revenue\ from\ sales\ of\ services}{Cost\ of\ services\ sold} \quad (34)$$

*Ratio of efficiency of the cost of services sold, taking into account profit from sales of services*

$$= \frac{Profit\ from\ sales\ of\ services}{Cost\ of\ services\ sold} \quad (35)$$

*Ratio of efficiency of administrative expenses , taking into account net sales revenue*

$$= \frac{Net\ revenue\ from\ sales\ of\ finished\ products}{Administrative\ expenses\ related\ to\ finished\ products\ sold} \quad (36)$$

*Ratio of efficiency of administrative expenses, taking into account profit from sales of finished products*

$$= \frac{Profit\ from\ sales\ of\ finished\ products}{Administrative\ expenses\ related\ to\ finished\ products\ sold} \quad (37)$$

*Ratio of efficiency of administrative expenses, taking into account net revenue from sales of goods*

$$= \frac{Net\ revenue\ from\ sales\ of\ goods}{Administrative\ expenses\ related\ to\ goods\ sold} \quad (38)$$

*Ratio of efficiency of administrative expenses, taking into account profit from sales of goods*

$$= \frac{Profit\ from\ sales\ of\ goods}{Administrative\ expenses\ related\ to\ goods\ sold} \quad (39)$$

*Ratio of efficiency of administrative expenses, taking into account net revenue from sales of services*

$$= \frac{Net\ revenue\ from\ sales\ of\ services}{Administrative\ expenses\ related\ to\ services\ sold} \quad (40)$$

*Ratio of efficiency of administrative expenses, taking into account profit from sales of services*

$$= \frac{Profit\ from\ sales\ of\ services}{Administrative\ expenses\ related\ to\ services\ sold} \quad (41)$$

*Ratio of efficiency of sale expenses, taking into account net revenue from sales of finished products*

$$= \frac{Net\ revenue\ from\ sales\ of\ finished\ products}{Expenses\ on\ sale\ of\ finished\ products} \quad (42)$$

*Ratio of efficiency of sale expenses, taking into account profit from sales of finished products*

$$= \frac{Profit\ from\ sales\ of\ finished\ products}{Expenses\ on\ sale\ of\ finished\ products} \quad (43)$$

*Ratio of efficiency of sale expenses, taking into account net revenue from sales of services*

$$= \frac{Net\ revenue\ from\ sales\ of\ services}{Expenses\ on\ sale\ of\ services} \quad (44)$$

*Ratio of efficiency of sale expenses, taking into account profit from sales of services*

$$= \frac{Profit\ from\ sales\ of\ services}{Expenses\ on\ sale\ of\ services} \quad (45)$$

A couple of things should be clarified in relation to indicators 30 through 45. The figures used in their formulas refer to the same period.

The cost of finished products sold includes the cost of used materials, processing costs and other related expenses. The cost of commercial activity includes all corporate expenses incurred in the course of such activity plus the carrying amount of goods sold as they relate to the net sales revenue and profit from sales of goods. The cost of services sold includes all direct expenses relating to their creation.

The sale expenses include all expenses directly relating to sales, and the administrative expenses include all corporate expenses incurred in the course of administrative operations of the company.

Where a company carries out one main activity (for example: industrial), the formulas calculating indicators 36 and 37 use the administrative expenses for the period over which the finished products are sold. The same logic applies in case of commercial and service provision activities. A company may perform two or more main activities. If, for example, a company carries out three main activities (industrial, commercial and provision of services), the administrative expenses relating to finished products, goods and services sold over a particular period should be allocated to finished products, goods and services on a given criteria when calculating the indicators measuring the efficiency of administrative expenses.

## Part Four. Models for analysis, planning and control of the economic efficiency of real sector companies

The factor analysis studies that have been conducted since the beginning of the last century have a crucial impact on expanding the options to use analytic coefficients for internal company analysis and quality management of companies. To a great extent, this refers to the factor analysis model proposed by experts at DuPont Corporation and developed in the 1920s. That model has become known as the DuPont System of Analysis (also called the DuPont Analysis, DuPont Model, DuPont Equation or the DuPont Method). DuPont Corporation is the first to apply and approve that system. In those days, return on sales and asset turnover (asset efficiency) enjoyed a wide spread. However, they were used separately. The DuPont Analysis linked these indicators with another – the asset efficiency. Initially, the DuPont Analysis included three correlations:

$$\frac{Profit}{Assets} = \frac{Profit}{Sales\ revenue} \ x \ \frac{Sales\ revenue}{Assets}$$

*Note: X is the multiplication sign.*

As shown, the correlation measuring asset efficiency (profit to assets), taking into account profit, comprises two correlations. In other words, it is decomposed into two other

correlations that measure the profitability of sales revenue and asset efficiency, taking into account sales revenue.

Theoretically, the experts at DuPont Corporation were not innovators as they used the original concept of linking indicators, which was firstly launched by Alfred Marshall and discussed in his book *Elements of Economics of Industry* published in 1892. Nevertheless, the developers of the DuPont Analysis should be given credit for the first practical application of this concept at their insistence (such linking of indicators had not been practically applied).

We have developed models (models have been developed by the author) in line with the DuPont Analysis that include a number of correlations measuring economic efficiency.

These models may be used by real sector companies to analyze, plan and control economic efficiency using appropriate software. Such software allows quick calculation of the correlation values for the current year and their quick comparison to the same values for preceding years. Further in this work, we present the models that will be useful to real sector companies in our opinion. Their concept is based on the DuPont Model, where a correlation is a result of multiplying two correlations. Furthermore, these models are in line with the Bulgarian legal framework as regulated economic efficiency elements are used.

The presented models have a pyramidal structure with a top correlation broken down into two correlations that equate the top one when multiplied. Each of the two correlations is decomposed in another couple of correlations, etc.

Some of the models may be used to analyze the efficiency of competitors as they allow the use of figures reported in the annual financial statements. So, the data presented in the annual financial statements of competitors may be taken into account as they are published in the Commercial Register which is public: "The Commercial Register and the Register of Non-Profit Legal Entities shall be public. Each person shall be entitled to free access to all data entered in these Registers" (Article 11 of the Law on the Commercial Register and the Register of Non-Profit Legal Entities).

We have developed three models that may be used to analyze the economic efficiency of real sector companies. The first model (Model A) comprises 15 correlations (Figure 6).

A couple of things should be clarified as to Model A, which is in line with the Bulgarian legislation (along with Model B and Model C) as mentioned.

The correlations use the average arithmetical values (average carrying amounts) of relevant resources (capital, equity, borrowed capital, tangible and intangible fixed assets) for a particular period. The figures used as nominators and denominators refer to the same period.

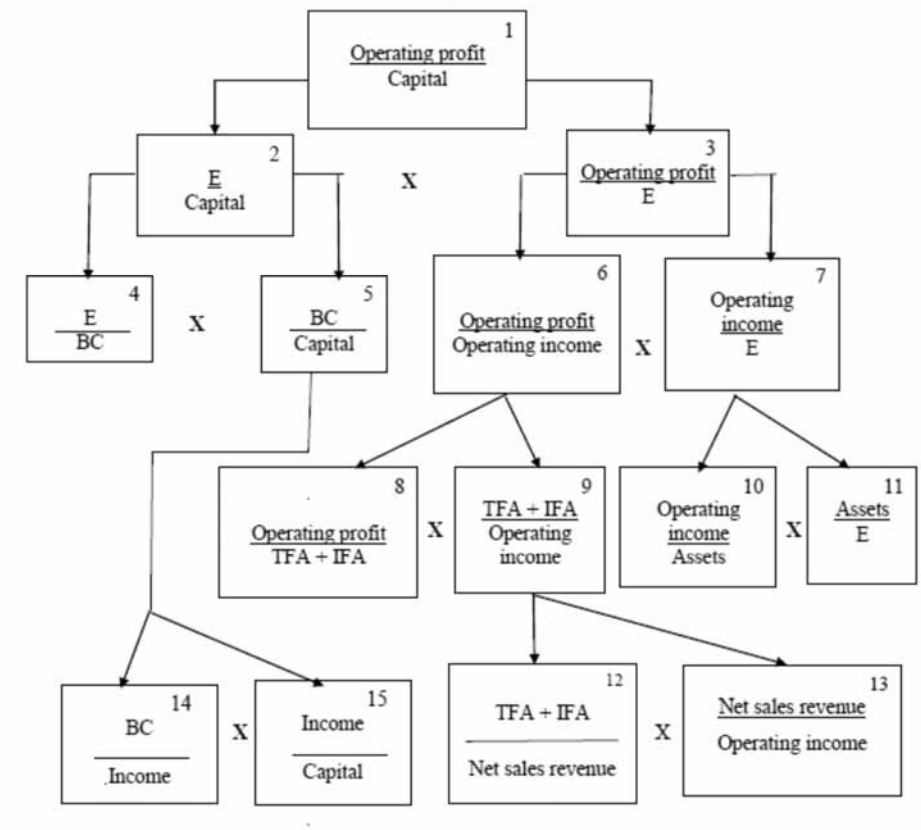
The capital is the total of equity and borrowed capital and, if applicable, financing and deferred income.

The borrowed capital equals the total liabilities, while the income includes the total revenues.

The ordinary activity comprises all economic operations that are regularly performed by a company within its scope of activities and the income from ordinary activity equals the total of operating income (net sales revenue, financing, etc.), financial revenue and other. The operating profit is the positive difference between the operating income and the operating expenses, including costs of materials, depreciation, amortization and other costs and financial expenses. In accordance with National Accounting Standard 1. *Presentation of Financial Statements*, "the operating profit or loss is the profit or loss before profit tax"**.**

Figure 6

Model A for analysis, planning and control of the economic efficiency of real sector companies




*Note: X is the multiplication sign.*

*Capital = E + BC*

*E – Equity*

*BC – Borrowed capital*

*TFA – Tangible fixed assets*

*IFA – Intangible fixed assets*

The Model A Figure shows that a correlation is decomposed into two correlations, each of which is decomposed into another couple of correlations, etc. and their interdependence.

How to use this model? The figures for the current calendar year may be used to calculate the relevant indicators. In particular, the figures of the efficiency indicators used in that model may be compared to the figures of the same indicators for preceding years and such comparison enables analysts to make certain conclusions. For example, it is possible to identify a downward trend in economic efficiency over the years. In such a case, analysts should give the management body recommendations on elimination of that trend. And the management body may make proper decisions on the basis of these recommendations. Experts should also present recommendations where the actual figures of the economic efficiency indicators (presented in the model) for the current year have a negative impact against the planned figures with the purpose of making adequate decisions. The management body may make decisions on economic efficiency optimization, including optimization of personnel remunerations, optimization of main activity organization, etc.

Company experts may apply that model in relation to competitors as the used data are public – they are reported in the balance sheets and income statements that form a part of the annual financial statements published in the Commercial Register, which is freely accessed in accordance with Article 11, Paragraph 1 of the Law on the Commercial Register and the Register of Non-Profit Legal Entities. The model application in relation to competitors enables comparison of the indicator figures of a company to the same indicator figures of competitors. On the basis of such comparison, a company may undertake measures where the figures of a number of efficiency indicators are unfavourable compared to their competitors' figures.

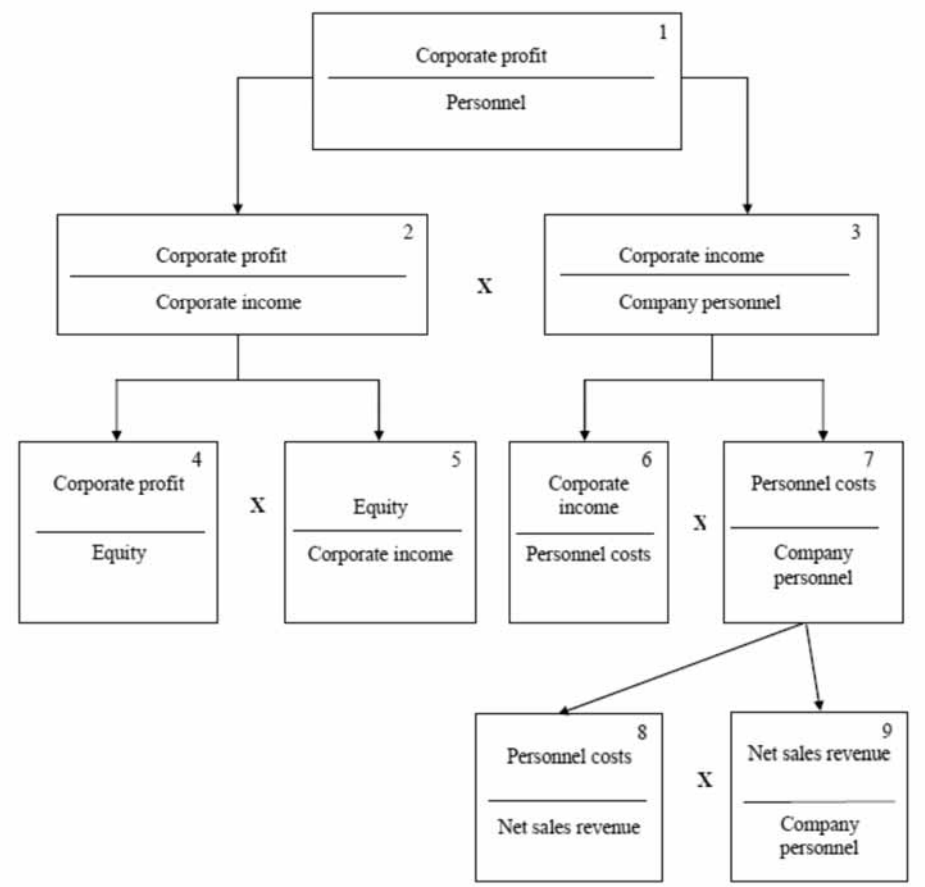
This model may be also used with data reported for quarterly or six-month periods. In this case, the model may be applied by the company experts only as the data for such shorter periods are not public (though some companies publish interim financial statements in accordance with the applicable accounting standards, including information for shorter periods that may be used by external persons as well).

Using annual data, this model may be also applied by external persons (analysts, lecturers, etc.) interested in the analysis of economic efficiency as public information is taken into account.

The next model (Model B) (Figure 7) also includes a number of correlations measuring economic efficiency and may be applied similarly to Model A. Model B may be used with the aforementioned public data and by external persons such as analysts and other. That model includes the company personnel, the average number of employees as per list in particular. External persons, who wish to use that model, can take this figure from the notes to the annual financial statements that are subject to publication in the Commercial Register as their other parts (balance sheet, income statement, etc.). In accordance with National Accounting Standard 1 *Presentation of Financial Statements*, a company is obligated to disclose the average number of employees as per list for the period in the said notes (point 24.2, letter i).

Figure 7

Model B for analysis, planning and control of the economic efficiency of real sector companies



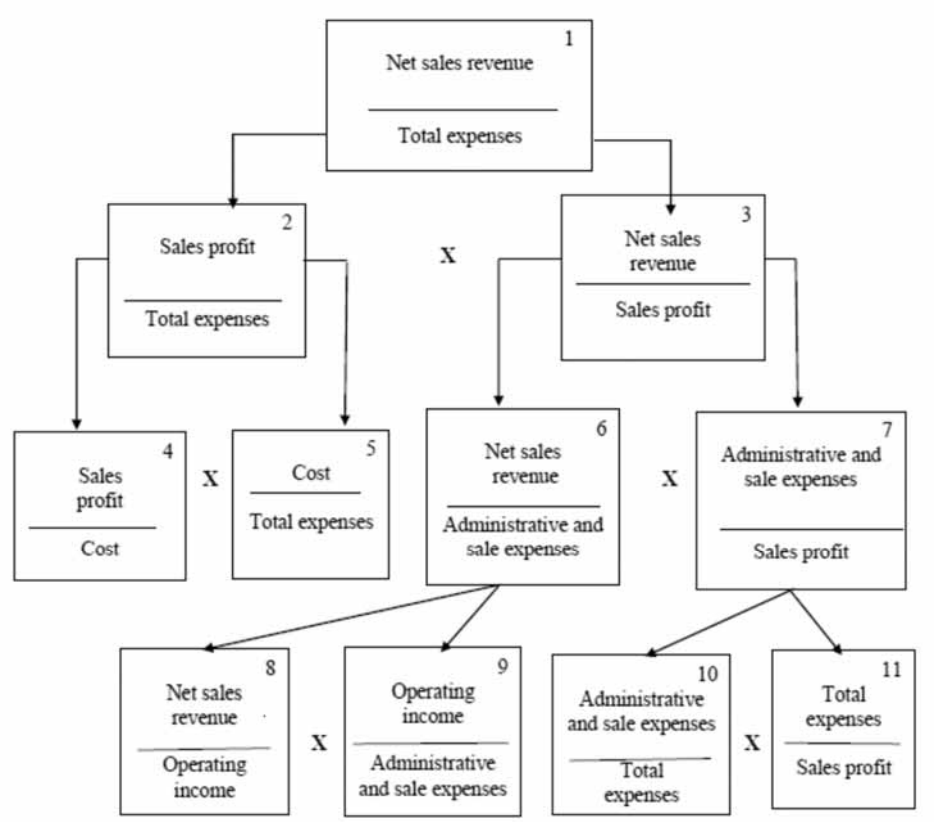

*Note: X is the multiplication sign.*

The economic effects used in the correlations comprised by Model B are the corporate profit, total income and net sales revenue. The company personnel presented as average number of employees as per list and the equity presented at average carrying amount are the resources. Model B also includes correlations measuring cost efficiency, i. e. correlations 6 and 8 that use personnel costs. The figures used as nominators and denominators refer to the same period. Company experts may use Model B similarly to Model A.

The next model (Model C) includes 11 correlations that calculate certain indicators, particularly indicators measuring economic efficiency (Figure 8).

Figure 8

Model C for analysis, planning and control of the economic efficiency of real sector companies




*Note: X is the multiplication sign.*

This model may be applied by company experts as most of the used data are not public. They are reported in certain accounts and cannot be accessed by external persons. Most indicators comprised by Model C measure cost efficiency. Used similarly to Model A and Model B, this model enables calculation of current year indicators, comparison of their figures to figures for preceding years, etc. It, however, may not be applied by company experts to competitors in contrast to the other models. The reason is that Model C uses non-

public information, that cannot be obtained, while Models A and B use public information presented in the financial statements, which are published in the Commercial Register.

The advantage of these models is the consideration of economic efficiency elements provided for in the applicable national legislation that are reported in the company accounts and financial statements. The information about these elements may be used to measure, analyze, plan and control the economic efficiency, especially as the annual financial statements of most companies are to be certified by registered auditors. This means that the presented data are correct, i. e. the financial statements give a true and fair value of the property and financial position of an entity and its financial results, cash flows and equity.

A shortcoming of these models is the use of information as at a particular date – for example: 31 December 2019. In 2020, the company may be granted bank credits, issue shares or bonds, etc. but no information about these economic operations is available as at 31 December 2019. This results in changed efficiency elements – resources such as cash, equity and borrowed capital.

Nevertheless, we are of the opinion that the application of the three models may identify the economic efficiency trends to some extent (through studying the figures of model correlations for a specific period – for example: 3 years). Respectively, the company management bodies may take appropriate measures, if necessary.

The proposed models are based on the DuPont Analysis – they include linkage of certain financial correlations but the number of the latter is higher. Moreover, two of the models include cost-efficiency ratios that are not present in the DuPont Analysis.

Further in this paper, we present a brief description of some financial analysis models dealing with economic efficiency but their thorough studying may be the subject of another research work. Besides, there is a lot of relevant information on-line.

The Economic Value Added (EVA) Model was developed by Stewart (1991) based on the concept that a company is profitable if it can cover the cost of its capital, including equity and borrowed capital, in addition to its operating expenses. EVA is the net operating profit less the cost of capital invested in a company:

*EVA = NOPAT – (Capital x Cost of Capital %)*

NOPAT means Net Operating Profit after Tax, while the brackets include the product of the total capital (equity and borrowed capital) and the cost of capital in %. Such cost is a form of economic efficiency as it is calculated through the ratio of capital costs to capital, which is a type of resource (multiplied by 100).

A positive EVA means that capital (equity and borrowed capital) costs do not absorb NOPAT and a portion of it remains within the company and is used for further corporate development. A negative or zero EVA means that capital costs fully absorb NOPAT.

Another model was developed by the American economist Edward Altman – the Bankruptcy Prediction Model. That model is a three-version formula used to predict the bankruptcy of companies – public and private companies that are manufacturers and private

companies that are non-manufacturers. The three versions include a number of correlations measuring economic efficiency.

There are also models used to rank companies. They include many financial indicators (including ones measuring economic efficiency) of individual weight, i. e. each of them gives a specific number of points. Respectively, companies are ranked into groups of different financial position.

Others that include the economic efficiency are the Return on Invested Capital (ROIC), the Data Envelopment Analysis (DEA), etc.

Compared to the EVA and other models, the proposed three models focus on the linkage of the financial correlations. Thus, the effect of figures of certain indicators on the figures of other indicators is demonstrated. This allows companies to seek options to optimize the values of certain financial correlations resulting in the optimization of other financial correlations. Moreover, the three models focus on economic efficiency, i. e. they include a number of correlations used to measure, analyze, plan and control the economic efficiency.

## Conclusion

This work covers a number of correlations and indicators measuring the economic efficiency of real sector companies that may be used to measure, analyze, plan and control such efficiency. In our opinion, the three economic efficiency models provide useful information in light of decision-making as to efficiency optimization. The studied aspects are presented in terms of the Bulgarian legislation. Therefore, this paper has not only a theoretical aspect, but also a practical one.

We consider the study thesis and the study objective and related tasks referred to in the introduction achieved.

The economic efficiency covers a large number of aspects and issues and is the subject of many papers. In this paper, we focused on a thorough study of aspects such as indicators and models for the economic efficiency of capital, assets, personnel and expenses of real sector companies that are of interest to economic theory experts and economic analysts.

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
ECONOMIC STUDIES

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# HOME BIAS AND EUROPEAN INTEGRATION

*The article estimates the size of home bias between 28 EU states between 2010 and 2018 and its variance between 17 industries. The assumption of the work is that home bias can be treated as a measure of integration: the smaller it is, the more countries are integrated. The aim of the article is to analyze bilateral trade flows of 28 EU states, and using Poisson pseudo-maximum-likelihood method calculate border effect for trade between these countries. Disaggregation of data into 17 production sectors will help to estimate the border effect more precisely. The methodology of the research is based on the gravity model estimation of panel data for 17 sectors, 28 countries and 9 years.*

*Using gravity model approach, it has been detected that the home bias is still present within the EU; however, it is decreasing with time, proving that the level of integration between states has increased. Another finding of the research is the diversity of home bias between sectors: it varies between 86.48 and 2.58, which can be explained by the difference in the rate of substitution between goods of domestic and foreign origin across industries.*

*JEL: F02; F13; F47*

## Introduction

The European Union has passed a long historical way of integration. From divided by the aftermath of World War the II European countries, it developed into the union with common principles and mutual solidarity. Results of integration are clearly visible: the EU has a share of almost a quarter of the World's GDP and stands in line with the global leaders: US and China. Free movement of labour and capital together with common economic policies have definitely increased trade between member states. Implementation of the common currency has removed currency exchange risk, which had a positive impact on trade flows as well.

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However, despite the long way of adjustments and integration of Europe, intra-EU trade is still not homogeneous, as it may be expected from the solid economic union. The Common Market is fragmented. It has been noticed that there is a tendency of countries to prefer intra-national to international trade, even if a distance with a neighbour is small and there are no trade barriers. That preference towards intra-national trade is known as home bias or border effect phenomenon. Wei (1996) has found that the EU bias average is smaller than in the rest of the countries in the world and shows a decreasing pattern. (Roman, Calvo, 2012) have also detected decreasing pattern in the home bias for EU states, the estimated coefficient was detected to be 2.7. The Border effect can be computed as an exponential of dummy estimate coefficient (exp^2,7), so Roman and Calvo's research has shown that countries' intra-national trade for EU exceeds international by more than 14 times. That result is surprising, because the distances in the EU are relatively small and there are no tariffs and almost no limits to trade.

## 1. Literature Review

### *1.1. Stages of Economic Integration*

Home bias is assumed to measure the level of integration between states: the higher it is, the less integrated countries are. There was no connection found between the presence of the home bias and the specific integration stage; however, its size is directly connected to the latter.

There are several stages which several countries need to pass to become an economic union. Despite the fact that there are many ways of possible integration paths, we consider it appropriate to summarize them in 3 key stages.

Free Trade Agreement (FTA) is the first stage of economic integration. Member-countries of FTA are eliminating trade tariffs against each other, and create an institution which regulates and resolves disputes. Elimination of the tariffs can be applied to a single sector or the whole economy; however, free movement of people and capital is not a must.

On the basis of FTA, countries may decide to integrate their economies further and to sign Customs Union agreement (CU) which requires member-countries to develop and maintain a common external trade policy (Holden, 2003). That is usually done by limiting 3rd countries' access to the CU by adding quotas or creating additional external tariffs. All members of CU are presented as one unity during the economic summits or negotiations.

Under the CU, re-exportation from one member-country to others is impossible, due to the common tariff for all of them. So, instead of re-selling foreign goods, countries have to develop their own production.

Despite the benefits, joining the CU means restrictions of independent trade and foreign policies for its members. Previous trade connections are challenged by the new barriers of trade, which of course may damage relations with other non-member neighbours.

After passing steps of FTA and CU, member-countries may decide to complete the integration process and create an Economic Union. The Union includes free movement of

the labour force and capital, one single foreign trade policy and unified product regulations. Moreover, it has a common social and economic policy implemented in every member-country. Of course, it is unlikely that all of the members will be on the same level of economic development, so there is a system of regulation and balancing economies. Weaker countries are receiving donations from the common fund. The size, frequency and purpose of these donations are regulated by the Institution, in which every state is proportionally presented.

The idea of the union in Europe was born before the World War II, e.g. Stresemann, Herriot and many other politicians and economists proposed an idea of "United States of Europe" in the early 1930 s. "Pan-Europa", published in 1923 by Richard Coudenhove-Kalergi, showed a possible way of integrating Europe around three pivots of power: Germany, France, and the UK. It claimed that the Holy Roman Empire, with the up-to-date amendments, will cause another Golden Age of Europe. First integration thoughts resulted as the aftermath of World War I, and several political contradictions between potential member states.

Obstacles to integration between European states evolved into "casus belli" for Germany, there was no political power or will to resolve confrontation peacefully, and the World War II started.

Despite the severity of the Great War, the "common" Europe idea began to grow as fast as never before, and no one expected that the War would result in such a dramatic political change on the continent.

9th May 1950 is known now as Europe Day. That is the date of the famous French foreign minister's, Robert Schuman's speech. He managed to bring the new perspective on Franco-German relations after several centuries of opposition, and he proposed to replace nationalism with cooperation. "The coming together of the nations of Europe requires the elimination of the age-old opposition of France and Germany" (Schuman, 1950). He proposed real actions to be taken as first steps to further integration: coal and steel production in both countries was said to be regulated by the common institution. At that time, coal and steel were the main resources of the industrial growth, so the integration of those spheres of industry solved several problems at once.

On 18th April 1951, less than a year after the Schuman's speech, the Treaty of Paris was signed by six countries: Germany, France, Luxemburg, Belgium, the Netherlands, and Italy. According to Article 2 of the agreement, its aim was to create a common market for coal and steel, to support the economic development of the countries, resolve after-war unemployment puzzle and to increase living standards.

Probably, the most important step to complete EU integration was made in 1992. The Maastricht Treaty declared the creation of the European Union, based on EEC. The Treaty had a three-pillar structure, developing achievements of previous agreements and creating new ones. The integration process has turned the EU into one of the three biggest economies in the world in line with China and US.

To sum up, 50 years of economic integration had led the EU to the top of world best economic performers chart. Out of separate states, a solid economic union with common

values and policies has been created. Obviously, joined efficiency and output of 28 countries is significantly higher than in every single member alone. However, even in such a well-integrated union, there are limits to integration, such as home bias, which will be described and tested in the next chapters of the work.

### *1.2. Development of Trade Theory*

Home bias is defined as a preference of country of internal over international trade. The size of the bias can be presented as a ratio of intra-national to international exports. It is noticeable from the current literature on home bias topic that results of different authors may vary dramatically. The reasons of discrepancies are in the basic background of the research. Models to reveal and measure home bias are based on trade theory as a milestone. The outcome of the investigation into the home bias phenomenon depends on assumptions and methods of research.

Theories of trade were created to study and explain the basis of trade between the countries, and its effects for both domestic and foreign economies. Depending on if the effects are positive, mixed or negative, the government can create a policy to stimulate or limit trade flow.

The absolute advantage theory was created by the "father of economics", Adam Smith (1776). According to the author, absolute advantage is achievable, when a country produces certain good at a lower cost than the other ones. Having an absolute advantage, the country should focus on the production of that good or specialize in it to have the maximal benefit from foreign trade.

Smith's idea was later on refined by David Ricardo (1817). He argued that there is no need to have an absolute advantage to benefit from trade. To address some issues that were not answered in the absolute advantage theory, the theory of comparative advantage was propounded by David Ricardo (1817). Ricardo argued that countries would mutually benefit from trade even if one achieved an absolute advantage over the other in producing all of the goods that they trade.

The Heckscher–Ohlin Theorem (H-O model) was developed on the basis of the Ricardian model by E. Hecksher and B. Ohlin (Bergstrand, 1990). Each country in pair has two factors of production in their endowments: labour and capital. The model is based on the assumptions of unequal distribution of resources between countries. One country is capital-abundant, which is a scarce factor for the other one. Each country specializes in the production of a good that intensively uses an abundant factor of production and imports a good which intensively uses a scarce production factor. That specialization is the main basis of trade between countries and represents a comparative advantage (Blaug, 1992). One of the main assumptions of H-O model is immobility of factors of production between the states, whereas within the country factors behave as imperfect substitutes of each other.

The new trade theory (NTT) was created by Paul Krugman (1979). He assumes that the increasing returns to scale and network effects are the main drivers of trade flows. Companies which first achieved increasing returns to scale receive the first mover

advantage, as they could manipulate prices and behave as a monopolist. Krugman argues that if there are enormous economies of scale and increasing returns to specialization in an industry, the global demand for goods and services may cause a number of firms to decrease. That means that in the long run firms would require benefits from the state to enter the market and maintain competitiveness, playing against first movers. The Krugman's model is based on several assumptions: firstly, there are two identical countries (home (H) and foreign (F)) and these countries share the same preferences and technologies. Secondly, labour is presented as the only non-tradable factor of production; both countries have the same endowment of labour. Consumer preferences are identical, as well.

According to Krugman, intra-industry trade occurs when countries exchange varieties of similar but not identical goods. Krugman (1979) argues that the gains from trade arise due to a larger number of varieties of goods available to consumers. Greater production of each type results in higher real income as prices are reduced due to increasing market size and competition. Krugman maintains that the comparative advantage does not only depend on the differences in factor endowments; it rather depends on the economies of scale and network effects that occur in the critical industries.

Home bias is an international trade phenomenon, so the trade theory should explain it. Depending on the selected theoretical framework, home bias may be explained differently. The article is focused on the integration of EU countries with no economic barriers to trade; thus, from the variety of described models, Tinbergen type is the most appropriate, as it does not take trade barriers into account.

Border effect or a home bias can be defined as excision of intra-national trade over international even under the condition of no trade barriers. Home bias is detected and measured by comparing internal and external trade flows of a country. To detect bias estimation with the dummy variable is used. The latter takes value 1 only if intra-trade has occurred. Depending on means and methods of the research, bias takes the value between 5 and 20, meaning that the country tends to trade with itself 5 to 20 times more.

The border puzzle was first noticed by McCallum (1995). The research was done just after the North American Free Trade Agreement's (NAFTA) implementation in 1994. NAFTA was aimed to remove trade barriers between the US, Canada and Mexico and to make trade more intensive. The author used data of 1998 to see how trade barriers are affecting the trade between the US and Canada. Moreover, Canada and the US were especially interesting, as those are close to each other geographically and culturally. As a methodology, Tinbergen (1962) type gravity model with distances, shipments of goods from importer to exporter and dummy variable, which indicated inter-province trade, was chosen. Research had a solid background of 693 observations and a promising theoretical foundation.

The result was surprising: it turned out that Canadian provinces strongly prefer to trade with each other than with foreign ones. Intra-province trade for Canada turned out to be up to 20 times higher than the trade with the US. Such a high number could not be explained by cultural difference, distance or trade barriers. The author suggested that due to that fact implementation of NAFTA will not change much in the volumes of trade.

Helliwell (1996) did the same research as McCallum, but data was taken for different period: 1993-1996. So, the period covered both times before and after NAFTA came into force. Research proved previous findings; however, the size of the effect turned out to be smaller and is equal to 18.

Wei (1996) was among other economists who thought McCallum's and even Helliwell's home bias coefficients were too high. He tested home bias among OECD countries using 9 years. Wei assumed that home bias dummy can be taken as export of the county to itself; in his work, he presented it as total production of the country minus exports to the rest of the world. The research concluded that the actual number for home bias for tested countries did not exceed 2.5. However, after adding several control variables, part of the trade pattern deviation was still not explained, so the bias should not only be explained by the trade barriers. Wei detected a link between the demand elasticity for goods produced in different countries and home bias, which goes in line with Armington. But the most important finding of the work was that there was the overall tendency of the bias to decrease. Especially it was visible in case of the EU states, as border effect in those decreased by half between 1982 and 1994.

Home bias, in general, can be interpreted as a marker of integration: the more integrated countries are, the lower the value of the home bias coefficient will be observed between them.

## 2. Methodology

### *2.1. Development of Gravity Model*

The gravity model was first to detect the home bias problem and is now most frequently used to investigate it. Gravity models help to estimate trade flows between countries on the basis of distance and corresponding trade barriers between them. Since the EU has abolished borders, it is interesting to use the gravity model and see how countries are trading without trade barriers.

The gravity model of trade represents the application of the Newtonian Gravity Law to the trade between countries (Anderson, 2016). The key assumption of the model is that there will be a direct connection between the trade flow and size of exporting and importing countries, and that there is a negative relation between trade flows and distance between the countries. According to the Newton's Law, flow $\mathbf{X}_{ij}$ from an exporting state *i* to an importing state j is described by the equation below.

$$X_{ij} = G\frac{Y_i E_j}{D_{ij}^{\ 2}} \tag{1}$$

Where:

**G** is the gravitational constant,
$\mathbf{Y_i}$ is the relevant economic activity mass at origin country,
$\mathbf{E_j}$ is the relevant economic activity mass at the destination country,
$\mathbf{D_{ij}}$ is the distance between the country of origin and the destination.

The first breakthrough in the gravity models was achieved by Tinbergen in 1962. His equation states that there is a direct link between the economic size of two countries and trade volume. Moreover, the latter is inversely related to the distance between these states. Tinbergen took GDP as a proxy of the economic size of countries.

Equation can be presented in the following form (Tinbergen, 1962):

$$X_{ij} = A\frac{Y_i^{\alpha} E_j^{\beta}}{D_{ij}^{\gamma}} \tag{2}$$

Where:

$\alpha$ – elasticity of GDP of country-importer,
$\beta$ – is the elasticity of GDP of the country exporter,
A – is a constant,
$\gamma$ – elasticity of geographical distance between countries.

The model holds up under the assumption that there is a dependence between the amount of exports and the economic size of the country. The country with relatively small GDP cannot export the same amount as a more productive one; this is the basis for the interaction of countries' economic masses. The economic size can also be taken as GDP per capita or as population; thus, it helps to capture not only the production level of the country, but also the value of consumption. This is important because the gravity of the economy has three "components" which create pressure on other countries: domestic supply of goods, which interacts with foreign demand force and the other way around, between home demand and foreign supply. These two pairs of interacting forces will shape trade flows between the economies (Tinbergen, 1962).

Chaney (2014) criticizes early gravity models, because distance elasticity in those models is mostly presented as a linear variable. The geographical distance itself does not include or somehow present any type of economic or technological barriers. The type of the transport used, political preferences, and the nature of the traded good itself are emitted variables.

The next step in gravity models' development was made by Armington in 1969. He was the first to come up with the hypothesis that not only the type of product (e.g. machinery, chemicals, and energy carriers) matters for consumers, but also the country of product's origin (Armington, 1969). According to his studies, there is a country of origin bias, which appears due to the historical or gained preferences of consumers.

Armington hypothesis expanded an understanding of the gravity modelling mechanisms as he suggested to split all goods traded between the countries in several classes. He also proposed to distinguish between tradable and non-tradable goods; tradable goods were said to have different trade costs, depending on the country of origin.

Anderson (1979) applied Armington's approach and integrated it into his model. As a basis of his model, he used traditional gravity equation of the Tinbergen type. The model was extended by the addition of the following assumption: both trading countries produce two types of goods: tradable and non-tradable one. That was done to make the model more realistic, as before it was restricted to only one differentiated good per country. The assumption on transportation cost, indicating a trade barrier, was also added to make the

model closer to reality. The final look of the Anderson model, which includes two countries and multiple traded goods is given below:

$$X_{ij} = \frac{Y_i \Phi_i \Phi_j Y_j}{\Sigma_j \Phi_j Y_j} \frac{1}{f(d_{ij})} \left( \sum_j \frac{Y_i \Phi_i \Phi_j Y_j}{\Sigma_j \Phi_j Y_j} \frac{1}{f(d_{ij})} \right)^{-1} \quad (3)$$

Where:

**$X_{ij}$** – bilateral trade flows from exporting country to importing,
**$Y_i$** – GDP of exporter country,
**$Y_j$** – GDP of importer country,
**$\Phi_i$** – share of expenditures on all traded goods in the total expenditure of the exporting country,
**$\Phi_j$** – share of expenditures on all traded goods in the total expenditure of importing country,
**$d_{ij}$** – distance between trading countries.

The left-hand side of the equation (3) corresponds to the economic distance between two trading countries, and the right-hand side corresponds to the economic distance from a country-exporter to other possible partners. Both parts are presented in relation to global expenditure and global trade, respectively.

Linder (1961), in his essay, proposed a hypothesis that similar countries have similar demand and supply structures. So, although they exchange the same category of goods, products will be differentiated. Even if two industrial countries trade with each other, they will both benefit from it, because each countries' consumers will have a wider choice of alike but not identical goods.

Another attitude towards gravity modelling was presented by Deardorff, who took Hecksher-Ohlin theory (described above) as a foundation of his model. Deardorff proposed two possible scenarios with different assumptions: frictionless and impediments trade options.

The first scenario is based on several strong assumptions, the first of which being homogeneity of tradable goods. According to Deardorff, the variety of goods exists in a joined basket, composed of exports from all involved countries. Consumers may select a desired good from that basket. World market equilibrium remains stable because of the transparency of each single market and perfect competition between producers and countries. The final equation of the model in that scenario is presented below.

$$X_{ij} = \frac{Y_i Y_j}{Y^w} \left( 1 + \sum_k \lambda_k \alpha_{ik} \beta_{jk} \right) \quad (4)$$

Where:

**$X_{ij}$** – bilateral exports of two countries,
**$Y_i$** – GDP of exporter,
**$Y_j$** – GDP of importer,
**$Y^w$** – compounded GDP of all potential trade partners in the world,
**$\alpha_{ik}$** – level of production of good k in the country-exporter,
**$\beta_{jk}$** – level of consumption of good k in the country-importer,

$\lambda_k$ – global income from sales of good k.

The equation states that import of one country from another depends on the share of production of both countries in the world production. Since there are no transportation costs, the distance does not affect the model, as it has been replaced with arbitrary preferences as the main determinant of the volume of trade.

The second scenario proposed by Deardorff includes trade barriers. According to Krugman (Krugman, Obsfield, 2006), during the trade between two countries, the price of production factors will be changing, with the increase of trade volume, until it becomes equal in all countries.

Deardorff's equation indicates a new factor that was not considered in gravity models before: it proved that the gravity mass of the country is relative, subject to the distances to other countries. If the distance between the two considered countries is taking a lower value than the distance with the rest of the countries, then the standard gravity equation does not hold. To balance the distance gap, it was proposed to use the inflation level of considered countries.

Trade flows in the model are affected not only by distance and trade barriers, but also by the price level.

Inflation acts as a geographical barrier: increase of prices in the exporter country will make it less attractive for importers and the other way around. In such a case, the main influence on trade flows between the countries comes from a comparative advantage: a country may be more advanced in the overall technology level, but its unique specification in technology could make it less attractive to trade partners.

Distance is another milestone of gravity models. There were several methodologies to capture the distance within the model. The most commonly used method is to take distance as real geographical distance between countries. On the one hand, that is easy and reliable: data is available and at the same time reliable. On the other hand, a straight line between states is rather a proxy then a real measure, because trade flows are connected to roads and routes rather than to the shortest possible distance. Thus, the second methodology uses average of length of roads between two trading countries. Both methodologies presented above can be applied only to international trade, as in the case of intra-national trade; the country of origin is the same as the country of destination.

Head (2001) has proposed a solution for the problem of measuring intra-national distances:

$$x_{ij} = 0.67 \frac{\sqrt{Area}}{\pi} \tag{5}$$

Where:

$x_{ij}$ – internal distance, meaning that country of origin is same as destination,

**Area** – Area of the country.

Due to the absence of trade barriers and relatively close location of EU members, Head's assumption of each economy as a "disc in which all production concentrates in the centre and consumers are randomly distributed through the rest of area" holds well (Head, 2001).

*2.2. Home Bias as a Trade Phenomenon*

Nowadays, there are many approaches to the estimation of gravity models; the paper focuses on Poisson Pseudo-maximum likelihood (PPML). The very first estimation of the gravity model of Tinbergen type was done in the log-linear form: both parts of the regression were transformed into the natural logarithm form. It helped to smooth data and to overcome problems of scaling (too big and too small values included in one equation) and unit roots. However, despite the obvious benefits of having regression in the log-linear form, there are disadvantages of this approach as well. First of all, the gravity model estimation requires a relatively big data set, and some values may be missing or have zero value. The Log-linear method will ignore and omit those observations, adding restrictions on the data set. Moreover, Silva and Tenreyro (2006) have detected that using natural logarithms may cause the presence of heteroscedasticity in the model. In a multiplicative model, the natural logarithm of the error term includes the variance of itself. The expected value of the error term will depend on several variables, if the error term is heteroscedastic, which breaks the crucial assumption of OLS. Thus, OLS estimator will be biased and will not be the best possible for this kind of model.

The "Log of Gravity" proposed by Silva and Tenreyro presented the new approach: PPML. According to their study, PPML shows better overall performance then OLS. First of all, PPML solves the problem of zero observations, because it uses levels instead of logarithms, so, in PPML, there will be more observations available. Moreover, PPML was proved to be robust to heteroscedasticity.

*2.3. Data Description and Transformation*

Bilateral trade data was taken from STAN database (OECD) as real bilateral exports between each pair of 28 countries, gravity data was taken from CEPII, the data covers 2010-2018[3] time period. Industries which were included in the research are presented in the table below. Industries of production are disaggregated by ISIC Rev. 3 (International Standard Industrial Classification of All Economic Activities). The choice of the industries is explained by diversification and data completeness.

Data for the research in the following chapter was taken for 28 EU states. International distances are provided by CEPII database; the distance of intra-national trade was calculated by Formula (5).

[3] There was a specific time period of 9 years for the study (2010-2018). 2019 was not taken into account, because no data were available for the study period for individual countries and Industries selected for the research.

Table 1

Industries selected for the research

| Variable Name | Sector of production | Variable Name | Sector of production |
|---|---|---|---|
| Hagr | Agriculture, hunting and related service activities | Hpha | Pharmaceuticals |
| Hfor | Forestry, logging and related service activities | Hrub | Rubber and plastics products |
| Hfish | Fishing, fish hatcheries, fish farms and related services | Hmet | Basic metals and fabricated metal products |
| Hmin | Mining and Quarrying | Hfmet | Fabricated metal products, except machinery and equipment |
| Hfoo | Food products and beverages | Hmach | Machinery and equipment |
| Htob | Tobacco products | Htra | Transport equipment |
| Htex | Textiles and textile products | Hotra | Other transport equipment |
| Hwoo | Wood and products of wood and cork | Hpap | Pulp, paper, paper products, printing and publishing |
| Hche | Chemicals excluding pharmaceuticals | | |

*Source: STAN Database, OECD.*

Internal import of countries is taken as a proxy for home bias. According to Wei's (1996) definition, home bias is "imports from itself in excess of what it [country] would be imported from an otherwise identical country" (Wei, 1996, p.9). As there is no possibility to find internal export of a country to itself in any database, internal export is calculated by Wei's methodology:

**Internal Imports = Total Production – Exports to the World**

Data represents a panel of 104677 observations (28 importers, 28 exporters, 9 years and 17 sectors), out of which 45911 (4.3% of the overall dataset) are missing values, due to information unavailability. To keep the panel strongly balanced and to address zero observations, PPML was chosen as the method of estimation.

## 3. Empirical Research

### *3.1. Model Specifications*

Regression equation takes the following form:

$$\mathbf{bitrade_{ij}} = \beta_0 + \beta_1 \mathbf{dist_{ij}} + \beta_2 \mathbf{contig_{ij}} + \beta_3 \mathbf{Y_i} + \beta 4 \mathbf{Y_j} + \beta_5 \mathbf{lang_{ij}} + \\ + \beta_6 \mathbf{home_k} + + \alpha_i + \alpha_j + \tau + \iota + \varepsilon \qquad (6)$$

Where:

**bitrade$_k$ij** – k-sectoral bilateral exports between home and foreign countries, (thousands USD in current prices), calculated on the basis of STAN, OECD,

**dist** – distance between home and the foreign country in kilometres, data taken from CEPII database and calculated on the basis of CEPII.

$\mathbf{Y_h}$ – GDP of home county (thousands USD in current prices), data taken from CEPII database,
$\mathbf{Y_f}$ – GDP of foreign county,(thousands USD in current prices), data taken from CEPII database,
$\mathbf{lang_{ij}}$ – dummy variable taking value 1 if there is the common language spoken in country pair and 0 otherwise, data taken from CEPII database
$\mathbf{contig_{ij}}$ – dummy variable taking value 1 if countries are sharing common border and 0 otherwise, own elaboration,
$\mathbf{home_k}$ – dummy variable taking value 1 if there is internal import in k sector and 0 otherwise, own elaboration,
$\boldsymbol{\alpha_j}$ , $\boldsymbol{\alpha_j}$ – fixed effect to capture exporter and importer in country pair,
$\boldsymbol{\tau}$ – time fixed effect, $\boldsymbol{\iota}$- industry fixed effect, ε – error term.

Distance is expected to have the only negative sign of the coefficient. Distance in the model is the main limit of trade; since there are no tariffs between EU countries, distance is taken as a proxy of transportation cost. All other signs are expected to be positive: literature review presented a strong positive correlation between GDP of both exporter and importer and bilateral trade flows. Having a common language and sharing the common border are expected to make trade flows more intense. Home bias is expected to have a positive sign as per previous researches.

OLS regression was used with robust command in Stata, which makes standard errors robust to heteroscedasticity. PPML is robust itself, according to Santos Silva and Tenreyro, developers of the approach. "Our method (PPML) is robust to different patterns of heteroscedasticity" ("Log of gravity", 2006, p. 653). Data has been tested on the presence of multicollinearity and autocorrelation.

To test autocorrelation in the estimations, the Wooldridge test was used *xt* serial in STATA. H0 of the test is no first-order autocorrelation. In all equations, there was no statistical reason to reject H0, so I can conclude that regressions are not affected by the autocorrelation.

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

***F( 1, 8097) = 0.894***

***Prob> F = 0.3358***

Every equation was tested for multicollinearity, using VIF test after running a regression. Variance Inflation Factor (VIF) shows by how much variance of the coefficient is affected by multicollinearity. If VIF estimator exceeds the value of 10 (see table 2), this means that there is significant multicollinearity, which can cause bias in the regressions. Since VIF coefficient is less than 10 and, at the same time, 1/VIF is never below 0.10, it can be concluded that there is no multicollinearity in the tested dataset.

Table 2

Results of VIF Test

| Variable | VIF | 1/VIF | Variable | VIF | 1/VIF |
|---|---|---|---|---|---|
| lndistone | 1.46 | 0.683889 | Hmet | 1.01 | 0.986123 |
| contig | 1.41 | 0.708434 | Htra | 1.01 | 0.986201 |
| comlang_off | 1.17 | 0.853114 | Htob | 1.01 | 0.986321 |
| lngdpo | 1.08 | 0.929309 | Hfish | 1.01 | 0.98647 |
| lngdpd | 1.07 | 0.937185 | Hmach | 1.01 | 0.986698 |
| Hfmet | 1.02 | 0.983312 | Hotra | 1.01 | 0.987365 |
| Hpap | 1.02 | 0.983312 | Hagr | 1.01 | 0.98784 |
| Hwoo | 1.02 | 0.983487 | Htex | 1.01 | 0.988042 |
| Hmin | 1.02 | 0.983988 | Hche | 1.01 | 0.988102 |
| Hrub | 1.02 | 0.984114 | Hfor | 1.01 | 0.988598 |
| Hfoo | 1.02 | 0.984311 | Hpha | 1.01 | 0.986123 |
| Mean VIF | | | 1.07 | | |

*Source: own elaboration.*

### *3.2. Model Results and Interpretation of Outcomes*

It should be noted that due to specifics of PPML methodology, a dependent variable must be in values, whereas independent ones are in the natural logarithm form (Santos Silva, Treneyro, 2006).

Signs of all of the variables in the table above are expected and in line with the literature review. The only negative coefficient belongs to distance, which indicates an inverse relation between distance and trade flows, which is in line with the theoretical background. Surprisingly, a common language turned out to be insignificant in the model. This can be explained by the relative simplicity of the model and by possibly omitted variables (see table 3). The last column of the table represents estimated home bias by industries; as it has been mentioned, the exponent of the home variable coefficient is showing how much intra-national trade exceeds international. The biggest home bias value is observed in agriculture, hunting and related service activities sector (86.48), forestry, logging and related service activities (38.36), and fishing, fish hatcheries, fish farms and related services (45.42).

The smallest home bias values are observed among the transport equipment sector (2.58), machinery and equipment sector (4.22), and chemistry sector (5.76). In the case of transport equipment, estimations showed that selected countries tend to trade just 2.6 times less with other countries than they do with themselves. This proves the hypothesis of difference in the bias level among different sectors of production. The difference between the largest and the smallest home bias value is huge and equals 83.9. Surprisingly, the average of estimated home bias values of all of the tested sectors turned out to be 22.3, which is not that far from McCallum's result.

Table 3

Results of Estimations

| R-squared: .62797112 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Number of observations: 94176 | | | | | | | |
| $bitrade_{ij}$ | Coef. | Std.Err. | z | P>\|z\| | [95% | Conf.Interval] | Home bias value (e^Coef.) |
| $lndist_{ij}$ | -1,21402 | 0,030188 | -40,21 | 0.000 | -1,2722 | -1,153266 | - |
| $contig_{ij}$ | 1,043368 | 0,076027 | 13,72 | 0.000 | 0,893746 | 1,190664 | - |
| $lang_{ij}$ | 0,021212 | 0,079608 | 0,27 | 0.80 | -0,13465 | 0,176933 | - |
| $lnY_i$ | 0,323166 | 6,365572 | 0,05 | 0.000 | 0,322796 | 0,322846 | - |
| $lnY_j$ | 0,369393 | 6,576522 | 0,06 | 0.000 | 0,368988 | 0,369009 | - |
| _cons | 11,43048 | 0,253411 | 45,11 | 0.000 | 10,92581 | 11,910400 | - |
| Industry specific Home bias coefficients | | | | | | | |
| Hagr | 4,465056 | 0,425081 | 10,50 | 0.000 | 3,629524 | 5,290514 | 86,48032 |
| Hfor | 3,650871 | 0,4617 | 7,91 | 0.000 | 2,744262 | 4,549102 | 38,35757 |
| Hfish | 3,820172 | 0,440977 | 8,66 | 0.000 | 2,954004 | 4,677624 | 45,4221 |
| Hmin | 3,288322 | 0,424159 | 7,75 | 0.000 | 2,455475 | 4,113610 | 26,70754 |
| Hfoo | 3,639448 | 0,424732 | 8,57 | 0.000 | 2,805218 | 4,465369 | 37,92255 |
| Htob | 3,007895 | 0,441306 | 6,82 | 0.000 | 2,141691 | 3,867119 | 20,18498 |
| Htex | 1,638027 | 0,439914 | 3,72 | 0.000 | 0,775573 | 2,496430 | 5,140359 |
| Hwoo | 2,750904 | 0,426214 | 6,45 | 0.000 | 1,914438 | 3,580959 | 15,61658 |
| Hpap | 3,197143 | 0,425938 | 7,51 | 0.000 | 2,360884 | 4,026036 | 24,38341 |
| Hche | 1,751311 | 0,440968 | 3,97 | 0.000 | 0,88671 | 2,611618 | 5,755966 |
| Hpha | 1,877267 | 0,440612 | 4,26 | 0.000 | 1,013268 | 2,736701 | 6,527368 |
| Hrub | 2,212904 | 0,425523 | 5,20 | 0.000 | 1,378196 | 3,042353 | 9,126104 |
| Hmet | 3,035077 | 0,425369 | 7,14 | 0.000 | 2,200055 | 3,863081 | 20,74033 |
| Hfmet | 3,138196 | 0,42517 | 7,38 | 0.000 | 2,303483 | 3,965671 | 22,98967 |
| Hmach | 1,440186 | 0,441547 | 3,26 | 0.001 | 0,574684 | 2,302059 | 4,218915 |
| Htra | 0,948215 | 0,44208 | 2,14 | 0.034 | 0,082039 | 1,811812 | 2,581431 |
| Hotra | 1,98905 | 0,424121 | 4,69 | 0.000 | 1,157251 | 2,816068 | 7,298143 |

*Source: own elaboration.*

Differences in the coefficients can be explained by the elasticity of substitution between home and foreign good. Hillberry (2002) considers that elasticity of substitution may vary depending on the type of the product. Thus, the results of the work may be different from other researchers due to the level and type of disaggregation of goods.

The elasticity of substitution varies between industries, and depends on consumers' preferences within the home country. The nature of the good itself plays a great role as well: how easily the good can be transported from one country to another, if the good loses its value during transportation or not; moreover, the industry development may be different for each of the countries. For the agriculture and fishery sectors, it is crucial to optimize the distance between a producer of raw material and a manufacturer, as transportation of those kinds of products may require special vehicles which increase transportation cost. Moreover, goods from those industries, as well as raw materials, require special storage and treatment during transportation. That may explain why there is so high home bias level in those industries. On the other hand, transport equipment just like machinery and equipment

goods and raw materials can be easily transported, as they are not losing any value during transportation.

For the second part of the study, it has been decided to estimate the equation below to see the development of home bias between 2010 and 2018 for selected countries.

$$bitrade_{ij} = \beta_0 + \beta_1 dist + \beta_2 contig + \beta_3 Yh + \beta_4 Y_f + \beta_5 lang + \beta_7 home2010k + \\ + \beta_8 home2011k + \beta_9 home2012_k + \beta_{10} home2013_k + \beta 11 home2014k + \\ + \beta 12 home2014k + \beta 13 home2016k + \beta_{14} home2017_k + \beta_{15} home2018_k + \alpha_i + \\ + \alpha_j + \tau + \varepsilon$$

Where:

$bitrade_{kij}$ – k-sectoral bilateral exports between home and foreign countries, (thousands USD in current prices), calculated on the basis of STAN, OECD,

$homet_k$ – dummy variable taking value 1 if there is internal import in k sector for each of 9 years and 0 otherwise,

dist – distance between home and the foreign country in kilometres, data taken from CEPII database and calculated on the basis of CEPII,

$Y_h$ – GDP of the home county (thousands USD in constant prices), data taken from CEPII database,

$Y_f$ – GDP of foreign county (thousands USD in constant prices), data are taken from CEPII database,

$lang_{ij}$ – dummy variable taking value 1 if there is the common language spoken in country pair and 0 otherwise, data taken from CEPII database,

$contig_{ij}$ – dummy variable taking value 1 if countries are sharing common border and 0 otherwise, own elaboration,

$\alpha_j$ , $\alpha_j$ – fixed effect to capture exporter and importer in country pair,

$\tau$ – time fixed effect, ι- industry fixed effect, ε – error term.

Because dummy are variables included in the model, typical fixed effects model of *xt*reg, *fe* in STATA cannot be used thus, it has been decided to add the latter manually. To include fixed effects, dummies for year, industry, the country of origin and the country of destination were used.

The fixed effect is represented as 28 dummy variables, which take value 1 only when each of the countries is acting as an exporter. On the contrary, the country of destination dummy takes value 1 if the country is importing. The same type was used to capture industries fixed effect.

To test time evolution of the home bias, Hagr type dummy has been replaced by the Hyear type. Results of estimations for year-specific home bias coefficients are presented in table 4.

After specification of the home variable was changed: dummy variable now indicates yearly development of home bias. The model held well after the reconsideration of dummies. Distance has the only negative sign, indicating that the model performs in line with the theory. On the basis of table 4, there was constructed a chart to show the evolution of home bias with time.

Table 4

Results of Estimations for year-specific home bias coefficients

| R-squared: 43627597 | | | | | |
|---|---|---|---|---|---|
| Number of observations: 94176 | | | | | |
| $bitrade_{ij}$ | Coef. | Robust Std. Err | z | P>\|z\| | Home bias (e^Coef.) |
| $lndist_{ij}$ | -0,878945 | 0,093003 | -9,45 | 0 | - |
| $lnY_i$ | 0,112662 | 0,026102 | 4,32 | 0 | - |
| $lang_{ij}$ | 0,000922 | 0,183266 | 0,01 | 0,994 | - |
| $contig_{ij}$ | 0,310663 | 0,177597 | 1,75 | 0,083 | - |
| $lnY_j$ | 0,134017 | 0,025043 | 5,35 | 0 | - |
| _cons \| | 7,838771 | 0,615185 | 12,74 | 0 | - |
| Year-specific home bias coeeficiens | | | | | |
| $Home2010_k$ | 1,289024 | 0,261564 | 4,93 | 0 | 3,647499 |
| $Home2011_k$ | 1,453758 | 0,297254 | 4,89 | 0 | 4,281522 |
| $Home2012_k$ | 1,640093 | 0,250668 | 6,54 | 0 | 5,133782 |
| $Home2013_k$ | 1,603992 | 0,249660 | 6,42 | 0,001 | 4,949629 |
| $Home2014_k$ | 1,316569 | 0,265875 | 4,95 | 0 | 3,751447 |
| Home2015 | 1,375931 | 0,263915 | 5,21 | 0 | 3,950143 |
| $Home2016_{k3}$ | 1,360181 | 0,261817 | 5,20 | 0 | 3,900799 |
| $Home2017_k$ | 1,329713 | 0,260879 | 5,10 | 0 | 3,766982 |
| $Home2018_k$ | 1,137265 | 0,2619757 | 4,34 | 0 | 3,177475 |

*Source: Own elaboration.*

Coefficients in column 3 represent the level of home bias in the specified year; these are significantly lower comparing to the ones in table 3, as now there is no specification of industries. This proves once again that the size of the border effect may vary because of the model specifications.

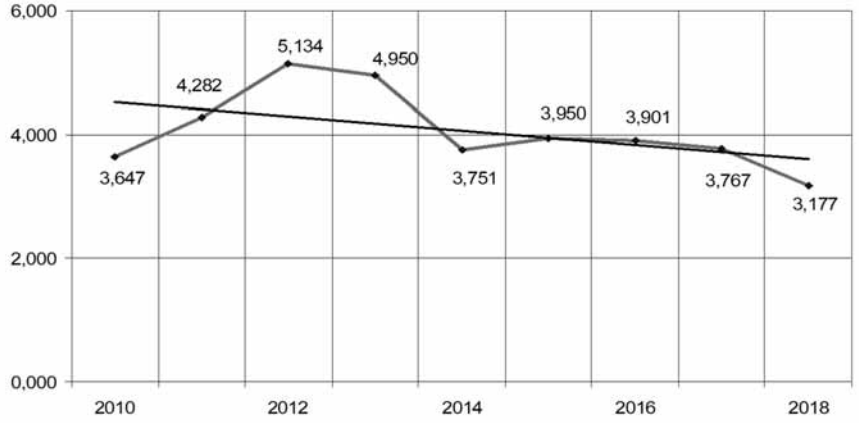
The blue line corresponds to the home bias, the black one to its trend value. As it was assumed, there is a declining trend of home bias with the average growth rate of. This tendency can be explained by the increase in integration and openness to trade between countries. As well as changes in the structure of production, export and internal market saturation. The fact that the preferences of countries in goods and services, as well as their quality and price have significantly changed, plays a significant role in the conditioned dynamics.

The blue line corresponds to the home bias, the black one to its trend value. As it was assumed, there is a declining trend of home bias with the average growth rate of -10% per year. This tendency can be explained by the increase in integration and openness to trade between countries. Relatively high shifts can be explained by the transition period of new countries in the EU.

According to the results of the study, the bias has been decreasing since 2015 due to integration processes in the EU. Efforts are constantly being made in the EU to balance consumer preferences between goods of domestic and foreign origin. Also, a decrease in prejudice towards the home and, as a result, further integration is limited by the rather low promotion of foreign goods by buyers and their conviction that foreign goods are equivalent to domestic ones.

Chart 1

Evolution of home bias for selected countries 2010-2018




*Source: own elaboration.*

Consumers continue to discriminate against foreign goods, even though they are the closest substitutes for domestic goods. The increase in demand and consumption of domestic goods, respectively, affected the level of saturation of the market with goods.

So, the decrease in the dynamics of the level of home bias between EU countries can be explained by the integration of countries and the development of a common market. Despite the fact that countries still prefer inner trade, the ratio of intra-national to international trade in EU is decreasing. Countries are becoming more open to trade with each other.

## Summary and Conclusions

The Single Market and the Currency Union are definitely the greatest achievements of the EU. Barriers of trade were dramatically reduced in the EU during the period of its integration. Introduction of free movement of labour and capital, elimination of tariffs and creation of common external tariff were aiming to synchronize trade flows and develop the new trade connections between member countries. However, home bias, which was found to be among the main limits of integration nowadays, is present between EU countries.

Gravity modelling approach makes it possible not only to detect the presence of the home bias, but also to measure it in a quantitative way. Recent studies have identified that home bias in the EU was relatively low in comparison to the rest of the world; however, it was present. The main hypothesis of the article was that there is a border effect between EU countries and that it has decreased with the integration of the EU. Hypothesis one was proved to be correct and the second one turned out to be partially correct. The article has

detected and measured the border effect between 28 EU states by industries. Home bias was observed to vary across industries. The biggest home bias value was observed in agriculture, hunting and related service activities sector (86.48). The smallest home bias values were observed among the transport equipment sector (2.58).

According to the results, home bias is indeed reduced by the integration processes of the EU. However, there are still some efforts to be taken to balance consumers' preferences between goods of home and foreign origins. Consumers are still discriminating foreign goods, despite the fact that these are the closest possible substitutes to the home ones.

Home bias reduction and, as a result, further integration can be achieved by promoting foreign goods to customers and making them believe that foreign is an equivalent to domestic. However, preferences are driven not only by rational thinking, prices or income. Some people think that by buying domestic goods, they save their neighbours' jobs. So, the true reasons of home bias remain yet to be investigated.

The limitations of the article, first of all, are connected to data unavailability. Data on bilateral trade is present only for a limited time period, and there are missing values. Moreover, the research was based on a relatively simple model. Thus, the home bias level may not be precise. The article focuses on the detection of the home bias rather than on explanation of its phenomenon due to the fact that the true reason of home bias is still not explained.

As per a recommendation for further research, it will be interesting to see how home bias will behave on a wider timescale. It would be also interesting to focus on the comparison of home bias level between original members of EU and countries which joined in the latest decade, as a methodology of the paper produced only the general outcome, without specific information for each of the countries.

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# SOCIAL ECONOMY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT AND SOCIAL INCLUSION (ECONOMIC AND LEGAL ASPECTS)

*This paper aims to explore the social economy in the context of sustainable development and social inclusion, while tracking the developments in the legal framework of the social economy in Bulgaria and analysing some basic concepts. On the basis of this analysis, the authors have made generalisations and drawn conclusions.*
*JEL: K29; K31; L31*

## Introduction

Poverty, income inequality, unemployment and economic crises continue to affect the modern world. In response to this, policymakers intensify their search for opportunities for inclusive and sustainable development that is economically, socially and environmentally viable.

As early as in 1987 the United Nations World Commission on Environment and Development prepared a report entitled "Our Common Future". It focused on sustainability as the ability to meet the current needs of society in a way that does not restrict the ability of future generations to meet their own needs (UN, 1987). The report highlighted the fact that decision-makers have to take into account the economic, social and environmental effects of decisions on development. The development of humankind has to go in the direction of a better income distribution, development of green technology and meeting the basic needs of people. In the context of sustainable development, the emphasis is on such inclusive goals as improving the working environment, reducing unemployment, investing in people's education and skills and combating poverty.

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On this basis, social economy began gaining more attention, given that its priorities are not maximising profits, but increasing social and environmental benefits, local development, equitable access to health resources and improved general welfare of society. Social economy is also on the agenda of the European Union (EU), which, realising its importance, has adopted a wide range of policies to promote it. At the EU level, in 2009 the European Parliament prepared a report on social economy. In 2013, Regulation (EU) 346/2013 on European social entrepreneurship funds was adopted. Until recently (2018), the lack of special legal framework on social economy in Bulgaria created difficulties for the development of the sector, conditions for abuse and overall lagging of the country in the common European process of social economy development.

**The topicality of the subject** is determined by the contemporary socio-economic environment and the fact that Bulgaria has the lowest income in the EU and the most widespread poverty. This puts the emphasis on solving many of the problems of the needy through new legislative methods and economic mechanisms. The relevance of the subject increases in view of the People with Disabilities Act, which introduced solutions for the employment of people with disabilities.

In recent years, measures taken by EU institutions have focused on issues of social cohesion and sustainable development. It has been realised that to achieve the goal of a more prosperous and fair society it is necessary to combine economic growth with social inclusion. The promotion of innovative ideas in public policy is crucial to support the values of every active, solution-oriented social system.

Social economy and social entrepreneurship are very important tools for social inclusion. The process of harmonisation of the national legal framework with EU legislation started already in the pre-accession period, and the national legislation is now to a high degree compliant with the European one. However, this process is on-going in terms of new social realities and statutory instruments that have yet to be harmonised.

**This paper aims** to explore the social economy in the context of sustainable development and social inclusion, while tracking the developments in the legal framework of the social economy in Bulgaria and analysing some basic concepts.

The study will be arranged around two main axes directly linked to the research **objectives** undertaken, namely:

- Economic analysis of the social economy in the context of sustainable development and social inclusion;
- Analysis of the current, new to Bulgaria's legislation legal framework of social economy in order to clarify the related principles and legal constructs.

The analysis of these issues and the proposal of adequate solutions have not only theoretical, but also practical significance. Theoretical research is a challenge for both economic and legal doctrine. Conducting an interdisciplinary research could be useful both for the elaboration of the theory in these scholarly fields and for the development of the legislation. The appropriate promotion and encouragement of social enterprises will utilise

fully their potential for growth and add value to society. This is particularly important for Bulgaria in terms of the low incomes and significant poverty of the population.

The study has been conducted using complex methods, in view of its interdisciplinarity, with priority given to economic methods. The paper does not analyse in detail the legal framework; it focuses on issues corresponding to the needs of the study and the related research tasks.

## 1. The growing importance of the social economy

Among the objectives of sustainable development to be reached by 2030, as formulated at the UN Sustainable Development summit (UN, 2015), the prevalent ones are those with social and environmental focus: elimination of poverty in all its forms; reducing income inequality and increasing welfare; promoting sustainable economic growth, accompanied by full and productive employment and decent work; quality education and opportunities for learning at all ages; ensuring healthy life; access to energy; providing water and sanitation; combating climate change and biodiversity loss; environmental protection, etc.

It should be also borne in mind that the economic growth is usually concentrated in certain economic sectors and does not occur equally in all regions. As a consequence people and geographical areas where poverty is in higher concentrations cannot take full advantage of the economic growth due to lack of better jobs, higher pay or other social benefits (Vickers et al. 2017, p. 8). A situation like this is not only morally unjust; it by itself delays the growth in the general welfare of society (Cingano, 2014).

In its search of solutions to these challenges, OECD issued a report emphasising the role of social economy in facilitating the access to employment and providing opportunities for the development of entrepreneurial activity (Noya and Clarence, 2007), and the Council of the EU defined social economy (SE) as a key driver of economic and social development in Europe (Council of the European Union, 2015). A report by the United Nations defined the objectives of social economy as promotion of the values of equity, humanisation of the economy and the offering of innovative solutions in the agenda of people (UNRISD, 2016).

It is believed that the term “social economy” first appeared in the economic literature in 1830, when French economist Charles Dunoyer, arguing for a moral approach to the economy, published his Treatise on Social Economy (Campos, Ávila, 2012, p. 16). Schools of social economists emerged over time, influenced by the occurrence of market failures in economies and the need to focus on stabilising the social welfare of society. The social economy was nicknamed “the third sector” (Amin, Cameron, Hudson, 2002; Defourny, Nyssens, 2010), which gives a combined return on investments: profit from invested financial resources plus social, environmental and cultural effects (Elson, Hall, 2012). The social economy model is a new business model which has the capability of filling the void between the social activities of the government and the activities of businesses. Some define it as “entrepreneurial activity with an embedded social purpose” (Austin, Stevenson, Wei-Skillern, 2006, p. 1).

At the end of the twentieth century, the EU created two important institutions. Established in 1990, the Social Economy Intergroup under the European Parliament operates to ensure a constant dialogue between all European institutions, Member States and the social economy sector. The group comprises members of the European Parliament and representatives of various European organisations operating within the field of social economy. At the initiative of the Intergroup, in 2009 the European Parliament issued a report recognising social economy as social partner and key player for achieving the objectives of the Lisbon strategy (EU, 2010). Subsequently, the Madrid Declaration stated that social economy values are key to achieving the objectives of the "Europe 2020" strategy, in particular with regard to the social and labour market inclusion of the most disadvantaged and vulnerable groups (EU, 2017).

The Consultative Committee of Cooperatives, Mutual Societies, Associations and Foundations (CMAF) was established in 1998 with the main task of dealing with issues related to the promotion of SE throughout the European Union. This Committee was dismantled in 2000, but a new European platform for communication among European institutions was established in its place, namely the European Standing Conference on Cooperatives, Mutual Societies, Associations and Foundations (CEP-CMAF) (Campos, Ávila, 2012, p. 95). In 2008 it was renamed to Social Economy Europe. Its members include European organisations of mutual and cooperative insurers, non-profit healthcare players, health mutuals and health insurance funds; industrial and service cooperatives; foundations, associations of general interest, work integration social enterprises, paritarian institutions of social protection, ethical banks and financiers, and the European Cities and Regions for the social economy (Social Economy Europe, 2018, p. 2).

The social economy model corresponds to the objectives of the sustainable and inclusive development, as it provides multiple benefits. On the one hand, its enterprises are instrumental in combating poverty and social exclusion: they provide employment or services and support to disadvantaged people. On the other hand, social enterprises provide economic benefits by reducing the need for public spending for social benefits and maintenance of long-term unemployed. The persons engaged therein do not rely on social benefit from the state budget, and they have the opportunity to earn the necessary means of subsistence on the market and thus feel like fulfilled, financially independent members of society (Blagoycheva, 2014). This is why on 20 July 2016, at the High-Level Political Forum on Sustainable Development held in New York, the European Commission defined social and solidarity economy as a strategic tool for achieving the goals of social development (EC, 2016).

A broader perception of the social economy regards it as an economic activity that is not governed by the market logic of profit generation, nor is controlled directly by the State, but rather is an activity which puts first the welfare of communities and of the marginalised people, before the partisan political directives or the individual profit (McMurtry, 2010, p. 4). The Social Economy Charter contends that the success of social economy cannot be measured solely in terms of economic and financial results, but rather has to be judged primarily in terms of its contribution to social cohesion, creation of quality employment, civic involvement in the economy, solidarity and territorial relations (Social Economy Europe, 2015). It is even believed that social economy is one of the paths to the future,

which would allow future generations to meet their needs better than we can satisfy the needs of today's population (Seelos, Mair, 2005).

Businesses and organisations engaged in social economy emerge in response to the present economic and social needs. They are characterised by democratic governance, volunteering and civic engagement in the public interest. They can be both small and medium enterprises and large companies or groups of companies operating in different economic sectors – industry, construction, agriculture, healthcare, education, culture, tourism, social services, cooperative banking, insurance, circular economy, leisure time organisations and many others (Table 1).

Table 1

Social economy main sectors of economic activities in the EU

| Total | 100% |
|---|---|
| Social Services | 16.70% |
| Employment and Training | 14.88% |
| Environment | 14.52% |
| Education | 14.52% |
| Economic, Social and Community Development | 14.34% |
| Culture, the Arts and Recreation | 7.08% |
| Health | 6.90% |
| Business Associations | 2.00% |
| Law, Advocacy and Politics | 1.63% |
| Other | 4.72% |

*Source: Liger, Stefan and Britton, 2016, p. 58.*

The data in the table show that the presence of social enterprises in the EU is strongest in social services, employment, environment, education and socio-economic development. Their activities in various other spheres of public life, such as healthcare, culture and legal services are smaller in scope, but nonetheless as important.

The activities, performed by institutions, engaged in social economy spread across a wide spectrum, as they are capable of being adapted to the needs and interests of society. They often take the shape of innovative economic and social activities.

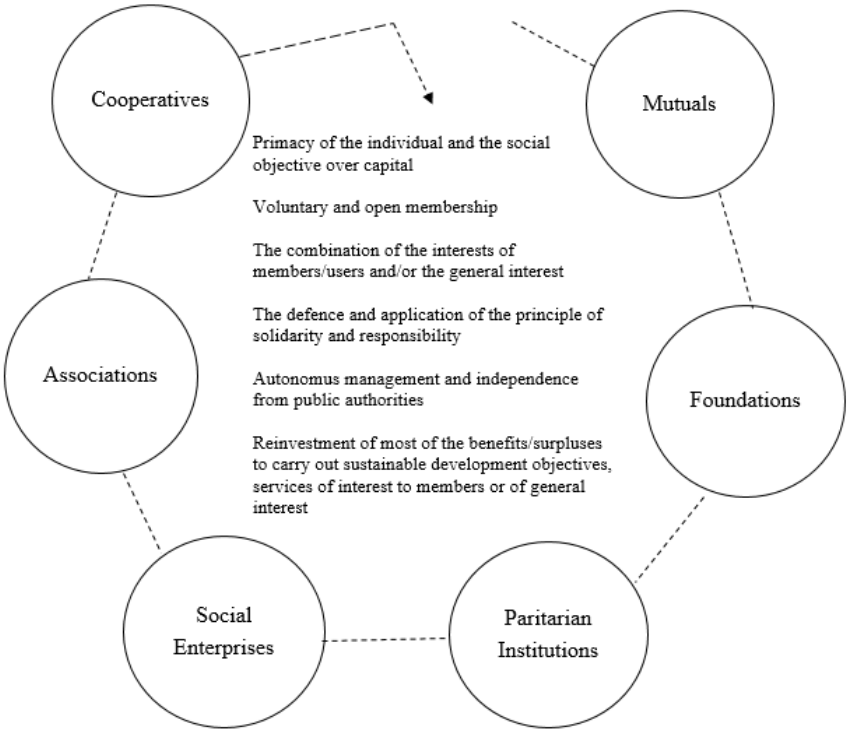
Research conducted under the SELUSI Project between 2009 and 2011 in five Member States (Hungary, Romania, Spain, Sweden and the UK), covering over 600 social enterprises, found that in recent years the rate of innovation is much higher among social enterprises than among other institutions operating in the market. The researchers have concluded that social entrepreneurs appear to be much less conformist and radically more "universalist" (with values transcending the self) than mainstream entrepreneurs (EC, 2013a).

Entities operating within social economy include social enterprises, associations, foundations, cooperatives, paritarian institutions, mutuals and others. All of them share common principles of operation (Figure 1). These principles are set out in Social Economy

Europe's Charter of Principles of the Social Economy (CEP-CMAF, 2002) and in practice can serve as a summary concept for the organisation and operation of the social economy.

Figure 1

Principles bringing together social economy enterprises




*Source: Social Economy Europe, 2018, p. 3.*

These principles have already been recognised in several official documents of the EU: Council conclusions on the social economy (Council of the European Union, 2015), reports by the European Parliament (European Parliament, 2009), studies by the European Economic and Social Committee on social economy (EESC, 2016), etc. The principles have been adopted in the legislation of some Member States, which is a major step forward in promoting the social economy and increasing its visibility.

Social economy enterprises carry out a wide range of commercial activities, provide various products and services to the population and create a significant number of jobs. Around two million enterprises are engaged in the EU's social economy (about 10% of all business entities in the EU). Their members are about 160 million (small businesses, banking and agricultural cooperatives, and mutual societies offering services complementary to social

security schemes) (EC, 2019a). Salaried employees in social economy enterprises are over 13 million (6.3% of the total employment in the EU) (Table 2).

Table 2

Paid employment in the social economy (2014-2015) compared to total paid employment in the EU (15-65 years old)

| Country | Employment in SE (A) | Total employment (B) | % A / B |
|---|---|---|---|
| Austria | 308,050 | 4,068,000 | 7.6% |
| Belgium | 403,921 | 4,499,000 | 9.0% |
| Bulgaria | 82,050 | 2,974,000 | 2.8% |
| Croatia | 15,848 | 1,559,000 | 1.0% |
| Cyprus | 6,984 | 350,000 | 2.0% |
| Czech R. | 162,921 | 4,934,000 | 3.3% |
| Denmark | 158,961 | 2,678,000 | 5.9% |
| Estonia | 38,036 | 613,000 | 6.2% |
| Finland | 182,105 | 2,368,000 | 7.7% |
| France | 2,372,812 | 26,118,000 | 9.1% |
| Germany | 2,635,980 | 39,176,000 | 6.7% |
| Greece | 117,516 | 3,548,000 | 3.3% |
| Hungary | 234,747 | 4,176,000 | 5.6% |
| Ireland | 95,147 | 1,899,000 | 5.0% |
| Italy | 1,923,745 | 21,973,000 | 8.8% |
| Latvia | 19,341 | 868,000 | 2.2% |
| Lithuania | 7,332 | 1,301,000 | 0.6% |
| Luxembourg | 25,345 | 255,000 | 9.9% |
| Malta | 2,404 | 182,000 | 1.3% |
| Netherlands | 798,778 | 8,115,000 | 9.8% |
| Poland | 365,900 | 15,812,000 | 2.3% |
| Portugal | 215,963 | 4,309,000 | 5.0% |
| Romania | 136,385 | 8,235,000 | 1.7% |
| Slovakia | 51,611 | 2,405,000 | 2.1% |
| Slovenia | 10,710 | 902,000 | 1.2% |
| Spain | 1,358,401 | 17,717,000 | 7.7% |
| Sweden | 195,832 | 4,660,000 | 4.2% |
| U. Kingdom | 1,694,710 | 30,028,000 | 5.6% |
| TOTAL EU-28 | 13,621,535 | 215,722,000 | 6.3% |

*Source: EESC, 2016, p. 69.*

This outlines a significant and crucial part of the socio-economic landscape of each European country. On the whole, social economy enterprises create a sustainable trend of a close relationship between the social security system and the social economy by transferring the burden of social protection from state aid to the realisation of real earnings (Yolova, 2019). An important feature of the social economy is that it is adaptable to the specific needs and interests of the community where the relevant social enterprise operates. This adaptability is particularly useful for dealing with the challenges of an economic crisis or for the employment of a workforce that is not attractive to other market participants.

## 2. Challenges facing the social economy and Europe's response

The "Europe 2020" strategy requires smart, sustainable and inclusive growth. Social economy has the potential to contribute to achieving these three objectives and this is reflected in a number of studies and empirical evidence (European Parliament, 2009; Social Economy Europe, 2010; Van Iersel, 2011; Cooperatives Europe, 2012; Rosenblatt, 2013). It has even been said that the objective functions of social economy enterprises constitute a multiple matrix that integrates economic and social goals, making them compatible with each other. And it is on such basis that all social economy enterprises generate important macroeconomic and social benefits to society (Campos, Ávila, 2012, p. 98).

Social economy contributes to smart growth. Its activities extend into different fields of education, culture and science. For example, in the UK following the "Big Society" policies cooperatives are stepping in to the field of education, with close to 400 schools already managed in a cooperative form (EC, 2013b). It should not be forgotten that it is precisely social enterprises that are the incubators of social innovation. On the other hand, the underlying value systems of social economy enterprises promote their solidarity with the environment, creating a mixed value (both economic and social) and generating positive effects that will enable future generations to benefit from sustainable growth. No lesser is the role of social economy in terms of inclusive growth, as its activities are largely focused on aiding vulnerable members of society and reducing poverty. Such activities comply with the three themes of the European Pillar of Social Rights: equal opportunities and access to the labour market; fair working conditions; social protection and inclusion (EC, 2017).

Despite their proven positive impact on society, however, social economy enterprises in Europe do not always receive the necessary visibility or recognition, and, moreover, they often face serious challenges when carrying out their activities.

One of their main problems is low visibility. Society and businesses still do not recognise them to the full extent as equal and important partners. This necessitates raising the awareness of their activity and recognising the social value they generate. Another problem in this regard is the lack of specialised education in social entrepreneurship, which makes it very difficult for social economy enterprises to find staff with the necessary skills and specific qualifications.

Social economy operators comprise mostly micro, small and medium-sized enterprises and as such, these face the challenge of overcoming the lack of understanding of their activity and finding the right financing opportunities despite their small size. Like any small business, they can fail at the very beginning of their operations, for various (mostly financial) reasons. Their earnings are most often from donations, membership fees, grants, revenues from contracts, sales revenues, including revenue from retail and investment (Allinson et al., 2011). The financial sustainability of social economy enterprises often depends on the ability of their members to provide the necessary resources. This is why the European Commission has recommended that EU countries give priority to the activities of social enterprises in the 2014-2020 national operational programmes. The social enterprises themselves can benefit from Europe's programme for small and medium-sized enterprises (COSME) (EC, 2015), the Regional Development Fund and the European Social Fund.

The activity of social economy enterprises takes place most often at the local level. One of the major prerogatives of social economy and social enterprises, in particular, is to tackle urgent problems and find solutions to specific emerging needs, revive social connections in the particular region, as well as those orientated towards sustainable regional development. (Blagoycheva, 2019, p. 490). The economic literature lists examples that give reason to assume that social enterprises are more resistant than the ordinary business-oriented small and medium-sized enterprises (Birchall, Ketilson, 2009). Their entrepreneurial dynamism is usually bottom-up, involving civil society and multiple stakeholders, which contributes to strengthening their social capital and the general support for their operation.

For their part, by positioning themselves in less developed regions, social economy enterprises help to strengthen the social capital in the relevant community by attracting and retaining resources (financial, material and human) and supporting local opportunities for consumers. However, their local particularism hinders their access to information about other best practices or coordinated inter-regional activities with similar social enterprises (EC, 2019b). A significant contribution to increased visibility and collaboration between social economy enterprises and their stakeholders has been made through the initiatives of the European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs – European Social Economy Regions (ESER) 2018 and 2019. These events attracted the participation of more than 80 regions and cities from EU countries (including Bulgaria) and third countries (EC, 2019b). The third edition of ESER will be held in November 2020 in the city of Mannheim, Germany. Besides continuing to raise awareness of social enterprises and promote social innovation, ESER 2020 will seek new opportunities for engaging the Commission in regional events arranged by ESER through online and offline tools (webinars, live chats, etc.) and creating a social economy community (EC, 2019b).

Social economy enterprises can benefit from the funding provided by the European Social Fund in the implementation of the principles and rules of the European Pillar of Social Rights. The Employment and Social Innovation (EaSI) programme also provides funds to support social policies and modernisation of employment, job mobility and improving the digital skills of the workforce. One of the priorities of the programme for 2020 is to create jobs through social entrepreneurship and international activities seeking to promote international and labour standards (EC, 2019c).

At the same time, the small size of social economy enterprises can be a barrier to participation in public tenders or public procurement procedures (especially if the award policy focuses on economic costs, without taking into account the value-added created by social enterprises). Moreover, their small size limits their opportunities for more serious investments in occupational safety and health. The interruption of activity due to an accident at work can lead to loss of customers or missed opportunity to conclude important contracts (Blagoycheva, Andreeva, Yolova, 2019).

It is believed that in the context of sustainable development one of the major problems facing the social economy is the lack of uniform regulation in European countries (EC, 2013b) and the fact that social economy can flourish only if a legal framework with suitable political, legislative and operational conditions is introduced at EU level (Social Economy Europe, 2018, p. 16). The adoption of such a common legal framework is currently

hampered by the diversity of the national economic and social realities of the individual Member States. Such common framework would contribute greatly to the development and implementation of an effective single public policy with regard to social economy enterprises so as to increase their cross-border recognition, bring closer their activities and exchange good sustainable practices.

## 3. Economic preconditions for the development of the social economy in Bulgaria

One of the main goals of the "Europe 2020" strategy is to decrease the number of the poor people in Europe by 20 million by 2020. On the threshold of the year 2020, Bulgaria is the Member State with the lowest income and most significant poverty in the EU (Table 3).

Table 3

People at risk of poverty or social exclusion as a percentage of the total population in EU countries

| GEO/TIME | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| EU-28 countries | : | 23,8 | 24,3 | 24,8 | 24,6 | 24,4 | 23,8 | 23,5 | 22,4 | 21,9 |
| Belgium | 20,2 | 20,8 | 21,0 | 21,6 | 20,8 | 21,2 | 21,1 | 20,7 | 20,3 | 19,8 |
| Bulgaria | 46,2 | 49,2 | 49,1 | 49,3 | 48,0 | 40,1 | 41,3 | 40,4 | 38,9 | 32,8 |
| Czechia | 14,0 | 14,4 | 15,3 | 15,4 | 14,6 | 14,8 | 14,0 | 13,3 | 12,2 | 12,2 |
| Denmark | 17,6 | 18,3 | 17,6 | 17,5 | 18,3 | 17,9 | 17,7 | 16,8 | 17,2 | 17,4 |
| Germany | 20,0 | 19,7 | 19,9 | 19,6 | 20,3 | 20,6 | 20,0 | 19,7 | 19,0 | 18,7 |
| Estonia | 23,4 | 21,7 | 23,1 | 23,4 | 23,5 | 26,0 | 24,2 | 24,4 | 23,4 | 24,4 |
| Ireland | 25,7 | 27,3 | 29,4 | 30,1 | 29,9 | 27,7 | 26,2 | 24,4 | 22,7 | 21,1 |
| Greece | 27,6 | 27,7 | 31,0 | 34,6 | 35,7 | 36,0 | 35,7 | 35,6 | 34,8 | 31,8 |
| Spain | 24,7 | 26,1 | 26,7 | 27,2 | 27,3 | 29,2 | 28,6 | 27,9 | 26,6 | 26,1 |
| France | 18,5 | 19,2 | 19,3 | 19,1 | 18,1 | 18,5 | 17,7 | 18,2 | 17,0 | 17,4 |
| Croatia | : | 31,1 | 32,6 | 32,6 | 29,9 | 29,3 | 29,1 | 27,9 | 26,4 | 24,8 |
| Italy | 24,9 | 25,0 | 28,1 | 29,9 | 28,5 | 28,3 | 28,7 | 30,0 | 28,9 | 27,3 |
| Cyprus | 23,5 | 24,6 | 24,6 | 27,1 | 27,8 | 27,4 | 28,9 | 27,7 | 25,2 | 23,9 |
| Latvia | 37,9 | 38,2 | 40,1 | 36,2 | 35,1 | 32,7 | 30,9 | 28,5 | 28,2 | 28,4 |
| Lithuania | 29,6 | 34,0 | 33,1 | 32,5 | 30,8 | 27,3 | 29,3 | 30,1 | 29,6 | 28,3 |
| Luxembourg | 17,8 | 17,1 | 16,8 | 18,4 | 19,0 | 19,0 | 18,5 | 19,8 | 21,5 | 21,9 |
| Hungary | 29,6 | 29,9 | 31,5 | 33,5 | 34,8 | 31,8 | 28,2 | 26,3 | 25,6 | 19,6 |
| Malta | 20,3 | 21,2 | 22,1 | 23,1 | 24,6 | 23,9 | 23,0 | 20,3 | 19,3 | 19,0 |
| Netherlands | 15,1 | 15,1 | 15,7 | 15,0 | 15,9 | 16,5 | 16,4 | 16,7 | 17,0 | 16,7 |
| Austria | 19,1 | 18,9 | 19,2 | 18,5 | 18,8 | 19,2 | 18,3 | 18,0 | 18,1 | 17,5 |
| Poland | 27,8 | 27,8 | 27,2 | 26,7 | 25,8 | 24,7 | 23,4 | 21,9 | 19,5 | 18,9 |
| Portugal | 24,9 | 25,3 | 24,4 | 25,3 | 27,5 | 27,5 | 26,6 | 25,1 | 23,3 | 21,6 |
| Romania | 43,0 | 41,5 | 40,9 | 43,2 | 41,9 | 40,3 | 37,4 | 38,8 | 35,7 | 32,5 |
| Slovenia | 17,1 | 18,3 | 19,3 | 19,6 | 20,4 | 20,4 | 19,2 | 18,4 | 17,1 | 16,2 |
| Slovakia | 19,6 | 20,6 | 20,6 | 20,5 | 19,8 | 18,4 | 18,4 | 18,1 | 16,3 | 16,3 |
| Finland | 16,9 | 16,9 | 17,9 | 17,2 | 16,0 | 17,3 | 16,8 | 16,6 | 15,7 | 16,5 |
| Sweden | 17,8 | 17,7 | 18,5 | 17,7 | 18,3 | 18,2 | 18,6 | 18,3 | 17,7 | 18,0 |
| United Kingdom | 22,0 | 23,2 | 22,7 | 24,1 | 24,8 | 24,1 | 23,5 | 22,2 | 22,0 | 23,6 |

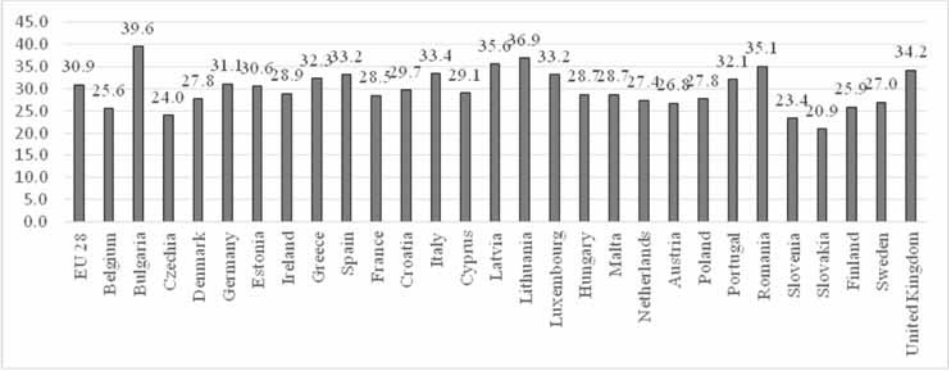
*Source: Eurostat, EU-Statistics on Income and Living Conditions (EU-SILC).*

In all the years covered by the table, Bulgaria is the country with the most significant share of people at risk of poverty and social exclusion, compared to other EU countries. Of course, seen in dynamics, we should not ignore the fact that in the ten years under consideration our country experienced the most significant reduction of poverty (from 46.2 to 32.8%). Only Romania has gone through a similar process (from 43 to 32.5%). But despite this positive trend, the parameters of poverty in Bulgaria still fail to meet the objective set in the "Europe 2020" strategy.

Bulgaria shows improvement in its economic development. The gross domestic product per capita in 2007 was 41% of the EU average, while in 2018 it was 50% of the EU average. But we are still "last in line". Before us are Croatia with 63%, Romania with 65%, Greece with 68% and Latvia and Hungary with 70% of the average level of GDP in the EU (according to Eurostat). Within the EU, Bulgaria is also the country with the highest income inequality (Figure 2).

Figure 2

Member States of the EU listed by the Gini coefficient (2018)




*Source: Eurostat, Gini coefficient of equivalised disposable income - EU-SILC survey*

In the past three years the Gini coefficient calculated for Bulgaria by Eurostat is the highest in the Union: 37.7 in 2016, 40.2 in 2017 and 39.6 in 2018. All this shows that social economy not only has a wide scope for action, but is also vital for the escape of Bulgaria from its unfavourable position compared to other European countries.

Social economy enterprises are typically positioned in a specific space between the public sector and private businesses. This position provides the opportunity for (or necessitates) the development of new business models to redirect resources to solving societal problems that have been ignored by both the business and the government. Vulnerable groups and their problems are of diverse nature, so the activities of social enterprises must be flexibly organised and with diverse orientation. The majority of their activities in Bulgaria are related to the provision of social or health services, employment of persons with disabilities and other social inclusion initiatives.

In May 2017 the government of Bulgaria, along with the governments of Romania, Slovenia, Greece, Cyprus, Italy, Malta, Portugal, Luxembourg, Spain and Sweden, adopted the Madrid Declaration "The Social Economy, a business model for the future of the European Union" (EU, 2017), which called on the European Commission to include in its work plan for 2018 a European Action Plan 2018-2020 to address the economic and social development and social cohesion of all citizens, with particular emphasis on disadvantaged and vulnerable people (EU, 2017).

This opens a wide scope for action for social economy enterprises in Bulgaria. At the same time, their public visibility in our country is not at the required level. The Ministry of Labour and Social Policy has created a Register of social enterprises in Bulgaria, but the latest information in the Register is from 2013. No information is available for the years thereafter. Table 4 presents information on self-identified social enterprises in 2013.

Table 4

Basic indicators of enterprises in Bulgaria, which have defined themselves as social

| Indicators | Non-financial enterprises which have defined themselves as social | Non-profit enterprises which have defined themselves as social | Total for Bulgaria |
|---|---|---|---|
| Total number: | 2,046 | 1,566 | 3,612 |
| Number of entities which have realised profit from business activity | 1,381 | 197 | 1,578 |
| Number of self-employed and hired persons | 32,561 | 5,985 | 38,546 |
| Revenue from non-profit activities (in BGN) | 5,557,597 | 179,675 | 5,737,272 |
| Expenses for non-profit activities (in BGN) | 5,611,198 | 184,989 | 5,796,187 |

*Source: Ministry of Labour and Social Policy.*

It is obvious that social economy enterprises have had their imprint on the economic system in Bulgaria. But in order to develop effectively, they require strong support from the government towards visibility, collaboration and ensuring a proper working environment.

## 4. Statutory regulation of the social economy in Bulgaria

The principles of sustainable development should be considered and analysed in direct correlation to the principles of national labour legislation, in a cumulative unity. Regional economy and policy, in the context of national and European policies, are inextricably linked to labour law, mainly at the regional level, given the different regional policies to boost employment and the right to work. Insofar as in the current period of its development

Bulgarian labour law is undergoing harmonisation with European law (as Bulgaria is a member of the EU), the acts of the EU are an important part of the sources of labour law.

One of the main challenges is the need for balance between the economic and social aspects of employment, which is achieved through a legal framework corresponding to the current needs of modern society and guaranteed by applicable and operational legal mechanisms seeking to protect the rights of working people (Andreeva, Yolova, 2018). This is also the main trend of modern society, proclaimed in the "Europe 2020" strategy, whose key concept is inclusive growth used as a tool for combating poverty and social exclusion through the development of the labour market, including in crisis conditions. The strategy identifies and interconnects three priorities, five goals and seven key initiatives. Its most direct link to the social economy is in Priority Three – inclusive growth by stimulating a high-employment economy leading to social and territorial cohesion.

Viewed in the context of European Community policies, the social economy is established as an integral part of the social environment and the social protection networks, by successfully combining economic profitability with social solidarity. In this sense, the National Social Economy Concept appropriately regards it as a "vehicle of democratic values that put people first, by creating jobs and promoting active civic involvement" (MLSP, 2011). This document, which precedes the formal legal framework, defines social economy as "a collective concept focusing on the direct social impact of the activities of enterprises and/or organisations that have been established with a social purpose and are deliberately organising their activities to achieve such result". Thus, the emphasis is on the understanding that "within the social economy, a sustainable business model is being created, which is not characterised by size and scope of activity, but by respecting common values... by allocating surplus income to the benefit of the members combined with the common interest in achieving the sustainable development goals." (MLSP, 2011).

In the further development of the Strategy, a series of national instruments upgrading the vision of social entrepreneurship have been adopted, which precede the adoption of the special law and serve as its foundation, directly or indirectly. In particular, these are the following: National Social Economy Concept (MLSP, 2011), Action Plan for Social Economy 2014-2015 (Council of Ministers, 2014), Action Plan for Social Economy 2016-2017 (Council of Ministers, 2016), Social Economy Action Plan for the period 2018-2019 (Council of Ministers, 2018), Updated Employment Strategy of the Republic of Bulgaria 2013-2020 (Council of Ministers, 2013), National Youth Strategy 2010-2020 (Council of Ministers, 2010), National Strategy for Reducing Poverty and Promoting Social Inclusion, 2020 (MLSP, 2019), Long-term Strategy for Employment Disability 2011-2020 (Council of Ministers, 2011), etc.

The statutory framework governing the development and strengthening of the social economy has been laid down by means of the Social and Solidarity Economy Enterprises Act, whose main objective is "the development of social and solidarity economy as an economic sector, which will improve access to employment and training of people from vulnerable groups, create conditions to increase their standard of living and reduce social inequality". The Act defines the nature of social and solidarity economy and is built around three key concepts – social activity and social purpose, social entrepreneurship and social enterprise. The Act also introduces several basic guidelines, namely definition of the

essence of social entrepreneurship and social activities; introduction of the concept of social enterprise; the conditions, organisation and manner of functioning of entities engaged in the social economy, as well as mechanisms for promotion and support of such entities (Andreeva, 2018).

In this respect, the development of the social and solidarity economy is envisaged at the statutory level through three key objectives, namely:

- improving the access to employment and training for acquisition or enhancement of professional qualification in order to raise the living standard of people from vulnerable groups,
- creating conditions for support of persons from vulnerable groups aimed at social inclusion and independent living,
- reducing social inequalities and achieving sustainable territorial development.

Along with the traditional and typical for the social economy forms of association such as cooperatives and non-profit legal entities carrying out activity in the public interest, the Act introduces the so-called social enterprises. According to the definition given in the Act, "a social enterprise" is an enterprise that, regardless of its legal form, is engaged in the manufacture of goods or provision of services by combining economic performance with social purposes, achieves measurable, positive social value-added; it is managed transparently with the participation of members and employees in managerial decision-making, and carries out its economic activities with part of the average number of staff being persons from vulnerable groups and/or with the profit being spent predominantly for carrying out the social activity and/or social purpose laid down in its articles of association or statute.

Social enterprises, divided into class A and class A+, are subject to entry into the National Register of Social Enterprises in the Republic of Bulgaria, which not only ensures transparency, but also facilitates the dialogue with national and local authorities.

A class A social enterprise is any enterprise which, regardless of its legal form, meets the established statutory requirements, which is possible in two varieties. The first has to meet the following conditions: 1. To carry out the social activity of public significance that produces social value-added, measurable under a methodology approved by the Minister of Labour and Social Policy; 2. To be managed transparently with high awareness of its employees, according to a procedure prescribed in the articles of association, the statute or any other constituent document; 3. More than 50 per cent but not less than BGN 7,500 of the positive financial result of the enterprise after tax for the last reporting period must be spent for social activity and/or social purpose.

The second variety of the social enterprise is one where, besides it carrying out the activity of public significance while being transparently managed with high awareness of the employees, not less than 30 per cent but in any case not less than three persons of its employees as at the effective date of the employment relationship are from any of the vulnerable groups listed in detail in the Act. This second variety is, in essence, the authentic social enterprise where the social dimensions of the activity carried out, the high level of

social solidarity, inclusiveness and integrity of individual and community interests are most clearly visible.

For its part, a class A+ social enterprise is any enterprise, regardless of its legal form, which meets simultaneously all the conditions for a class A social enterprise, and also at least one of the following alternative conditions: 1. The social value-added is realised entirely within the administrative boundaries of municipalities where the previous year's rate of unemployment was equal to or higher than the national average; 2. More than 50 per cent but not less than BGN 75,000 of the positive financial result of the enterprise after tax must be spent for carrying out the social activity; 3. At least 30 employees are persons engaged in a class A social enterprise, provided that they have worked in the enterprise over the past six months without interruption.

It is important to clarify that the requirements for social enterprises regarding the positive balance sheet should be considered fulfilled also where the positive financial result after tax is reinvested in the enterprise itself, if its main activity is social within the meaning of the Act.

It is clear that a solid legal basis has been laid down, completely in line with European trends, which should undergo its further elaboration in relevant regulations. The undeniably positive solutions in the Act can be summarised as follows:

- clear legal definition of the main concepts and constructs of social economy;
- a proper and accurate systematisation of the conditions for obtaining the status of a social enterprise;
- a basic system of incentives and support mechanisms, which certainly need further development, but are nevertheless correctly and specifically formulated at the level of this basic act of legislation;
- transparent rules for registration with appropriate administrative relief.

## Conclusion

The social economy model corresponds to the objectives of the sustainable and inclusive development, as it provides multiple benefits. On the one hand, its enterprises are instrumental in combating poverty and social exclusion: they provide employment or services and support to disadvantaged people. On the other hand, social enterprises provide economic benefits by reducing the need for public spending for social benefits and maintenance of long-term unemployed.

An important feature of the social economy is that it is adaptable to the specific needs and interests of the community where the relevant social enterprise operates. This adaptability is particularly useful for dealing with the challenges of an economic crisis or for the employment of a workforce that is not attractive to other market participants.

The activities of the social economy constitute an opportunity for the present generation not to cause harm to future ones, but to provide them with the conditions to satisfy even more

successfully their future needs. In addition, the economic activities carried out by social enterprises are a resource that could significantly relieve the State's expenditure for social assistance. In view of the categories of people envisaged to participate in social enterprises, it is clear that there will be quite positive outcomes also for the social security system. In that respect, it should not be open to dispute that the sustainable employment and social inclusion of marginalised categories of people transfer the burden of payments from to the social security system to the system of employment, relieves budgets from spending on social benefits and gives employees adequate insurance – legal status.

Bulgaria is the country with the most significant share of people at risk of poverty and social exclusion, compared to other EU countries. It is also the country with the highest income inequality. In addition, the effects of economic growth usually vary from region to region. Thus, people from poorer regions cannot rely on quality employment, higher pay and other social benefits.

The social economy model is a new business model which has the capability of filling the void between the social activities of the government and the activities of businesses. Social economy enterprises have had their imprint on the economic system in Bulgaria. The majority of their activities are related to the provision of social or health services, employment of persons with disabilities and other social inclusion initiatives. At the same time, their public visibility is not at the required level.

In order for them to develop effectively, they require strong support from the government towards visibility, collaboration and ensuring a proper working environment. One of the main challenges is the need for balance between the economic and social aspects of employment, which is achieved through a legal framework corresponding to the current needs of modern society and guaranteed by applicable and operational legal mechanisms. In this respect, it can be reasonably stated that entirely in the spirit of the European Community policies in our national legislation already exists a coherent and consistent system of documents for applying the model of social economy and accordingly a special law with well-regulated normative aspects. This law is characterised by clearly formulated principles and institutes, enabling an effective and efficient practical mechanism.

In this respect, along with the measures taken at the European level and by central authorities in different countries, it is necessary to increase the role of local authorities. They can contribute through various forms of support by providing publicity or establishing public-private partnerships. The choice of mechanism will depend on the needs and capabilities of the respective municipality or region, based on the good system of incentive measures and mechanism, provided for by the law and respectively concretised in the secondary normative acts, which shall be adopted. The support given through a well-organised implementation practice of the legal framework would contribute to greater efficiency in overcoming the social exclusion of many of the disadvantaged people.

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# RESEARCH ON THE RELATION BETWEEN COMPANY PRICING OBJECTIVES AND PRICING STRATEGIES

*The aim of this study is to find out which are the pricing strategies used by the companies operating in Bulgaria in terms of their pricing objectives. In this regard, the study provides a literature review of the theoretical developments and empirical research on company objectives and pricing strategies as well as an empirical survey. Based on the survey data, two groups of pricing objectives were distinguished: of universal and of specific nature. It was found out that universal nature is more typical of quantitative objectives, whereas specific nature is more typical of qualitative objectives. In terms of specific objectives, it was shown which pricing strategies are used for their achievement.*
*JEL: M39; D47*

## Introduction

Pricing objectives are of paramount importance for every company for they are the first step in the pricing process. Correctly defined objectives are a prerequisite for making effective pricing decisions related to price positioning, choice of pricing strategy, choice of pricing method, price changes over time, etc.

Pricing objectives reveal what a company aims at through the prices of its products. A pricing strategy characterises the way in which, according to management logic and understanding, price is used as a marketing tool to achieve the goals that were set (Micheva, 1993; Klasova, 2001, etc.). Since companies set different pricing objectives and use differently price as a marketing tool, different pricing strategies have been developed in pricing theory and practice.

The object of the research in this study is the pricing objectives and pricing strategies of the companies operating in Bulgaria and its subject is their relationship.

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This study aims to find out which pricing strategies are used by companies in order to achieve particular pricing objectives.

To achieve this aim, the following research issues will be considered: (1) defining pricing objectives that can be achieved by implementing various pricing strategies and (2) identifying groups of pricing objectives that can be achieved by implementing a particular pricing strategy.

The survey includes companies from different industries of the economy: textile, food industry, mechanical engineering, chemical industry, wood processing, construction, agriculture, hotel and restaurant industry, financial and insurance services, consulting services, education, health care and pharmacy, information technologies, telecommunications and other.

There are two main limitations in the survey research: (1) the object of the survey are only companies operating in the country – Bulgarian and foreign one and (2) the respondents are only CEOs/marketing directors/managers – the people who are in charge of prices and pricing in a particular company.

The study presents the results from project № R&D ScR-16/2017 of UNWE focused on the development and implementation of pricing strategies by the companies operating in Bulgaria have been used.

## 1. Literature review

In this part of the study, a literature review of the theoretical developments and empirical research on company pricing objectives and pricing strategies has been done.

### *1.1. Theoretical literature review*

The purpose of this section is to sum up the authors' viewpoints on the use of the concepts of pricing objectives and pricing strategies. This needs to be done in order to clarify the concept of pricing objectives and the concept of pricing strategies used in this study as well as to enumerate the kinds of pricing objectives and of pricing strategies that are the object of research in it.

Pricing objectives

The development of a pricing strategy involves setting clear and specific pricing objectives (Galabova, 1996). Pricing objectives indicate the direction of pricing activities (Oxenfeldt, 1983). They help understand what a company expects to achieve through prices as well as to measure the degree of effectiveness of the activities performed (Tzokas et al., 2000). When setting pricing objectives, the following should be taken into account: price objectives must be subordinated to marketing objectives, which are subordinated to company objectives; companies can have more than one pricing objective over a particular

period (Shipley, 1981; Diamantopoulos, 1991); pricing objectives can be changed due to changes in the environment (Tzokas et al., 2000); some price objectives have a unidirectional action and can be combined but others cannot be used in combination (Jobber and Hooley, 1987); the achievement of each pricing objective happens at different times and at different prices; pricing objectives must be measurable, otherwise, it is difficult to say if they have been achieved and if the company pricing strategy has been successful (Netseva-Porcheva, 2010).

The variety of pricing objectives involves their classification according to various criteria. According to Shipley (1981), Diamantopoulos (1991), Avlonitis and Indounas (2005a) price objectives should be considered in terms of three characteristics: according to their nature (quantitative and qualitative), according to their time reference (short-term and long-term) and according to the desired result (profit/sales maximisation or profit/sales satisfaction). Quantitative objectives are these objectives that can be measured easily and are related to profits, sales, market share and investment. Qualitative objectives are the objectives with a focus on the relations with consumers, competitors, distributors, survival and achievement of social goals (Avlonitis and Indounas, 2005a).

The literature review allows to identify some problem areas in defining pricing objectives. First, in a lot of studies, the time period for the achievement of an objective is not specified (Lanzillotti, 1958; Jobber and Hooley, 1987; Tzokas, 2000; Rao and Kartono, 2009, etc.) or is specified as either short-term or long-term (Oxenfeldt, 1973; Shipley, 1981, etc.). Second, defining price objectives related to maximisation has been criticised by a number of scientists as being unrealistic to achieve (Avlonitis and Indounas, 2005b).

Pricing strategies

Pricing theory and practice offer a number of pricing strategies that we can provisionally group based on different criteria. From a marketing point of view, the most popular pricing strategy is the following one: depending on the key pricing determinant (basic pricing strategies), related to competition, related to product features, for price adjustments (Netseva-Porcheva, Bozev, 2019).

Over the last years, the basic pricing strategies – cost-based pricing, competition-based pricing and value-based pricing are the three pricing strategies that have been the object of comparative analysis by scientists (Tarasevich, 2010; Schindler, 2012; Gladkih, 2013; Lipsits, 2014; Hinterhuber, 2008, Nagle, Hogan and Zale, 2014; Simon, 2015; Kostova-Pickett, 2017; Kienzler, Kowalkowski, 2017; Kotler, Armstrong, 2018, etc.).

- Cost-based pricing is a pricing strategy in which prices are determined by production and marketing costs to which is added a profit element based on the efforts made and the risk taken. First, 'good' products are designed and developed. Then, the costs for their production and sale are determined. To them is added the desired profit volume and, thus, the 'right' price is set. Finally, consumers are convinced in the value of the company product (Nagle, Hogan, Zale, 2014). The companies that have adopted cost-based pricing aim to cover their production and product marketing costs and to achieve a satisfactory level of profit. Since costs determine the lower price limit (Monroe,

2003), the levels of the prices of company products, set by these companies, are usually lower. That is why in most cases, the market share of these companies based on sales volume is bigger than that of the other market players (Netseva-Porcheva, Bozev, 2019). Low prices of company products discourage new rivals from entering the market as well.

- Competition-based pricing is a pricing strategy in which the prices of company products are determined based on competitors' prices and pricing strategies. Consumers assess product value based on competitors' prices for similar products. When assessing a competitor's pricing strategy, a company has to answer a few questions: how is the company market offering perceived compared to similar competitors' ones in terms of value, how strong are the current company competitors and what are their pricing strategies now (Kotler, Armstrong, 2018)? According to Tanushev (2012), product price is one of the criteria used for company profiling in terms of company competence and of determining company competitive advantage and position. The management of the companies adopted competition-based pricing is not willing to take risks. What is typical of such companies is that, in most cases, instead of competing directly with their main rivals in terms of price, they follow their pricing behaviour.

- Value-based pricing is a pricing strategy in which the price is determined based on consumers' perceptions of the product value. First, consumer needs and perceptions are considered in terms of value. A target price corresponding to these perceptions is set. Then, production and marketing costs are taken into consideration. Finally, a product that offers the desired customer value is designed and offered at the fixed target price (Nagle, Hogan and Zale, 2014). The management of the companies that have adopted value-based pricing is proactive, willing to take risks and applies more-innovative strategies (Netseva-Porcheva and Bozev, 2019). In most cases, value-based pricing leads to higher price levels and a more positive impact on company profitability compared to cost-based and competition-based pricing (Hogan, 2010; Liozu and Hinterhuber, 2013; Toni, Milan, Saciloto and Larentis, 2017; Stiving, 2018, etc.). Value-based pricing focuses on delivering benefits to all partners: customers, distributors, the company itself (Macdivitt and Wilkinson, 2012). According to Stiving (2018), value-based pricing builds consumer loyalty if the product is worth its high price and balances the interests of both the company and the customers since, this way, it can create an opportunity for customer capital accumulation and lead to increased company value in the future.

### *1.2. Empirical literature review*

What groups the studies mentioned below is the subject of research which is company pricing objectives and strategies.

Pricing objectives

Shipley (1981) did research based on the data collected from 728 sales and marketing directors in order to find out what are the pricing objectives of British manufacturing firms and tried to establish in particular (1) those which significantly influence their company's pricing decisions, and (2) one which is usually regarded within the organisation as being the most important. The analysis of the survey data was refracted through the prism of key pricing issues such as: multiplicity of pricing objectives; flexibility in pricing objectives; choosing between short-term or long-term profits, choosing between profit maximisation or satisficing. It was found out that the most common pricing objectives British manufacturing firms set are profit target or return on capital employed, followed by setting prices which are fair to customers, achievement of price similarity with competitors, target volume of sales revenue, stable volume of sales, and market share based on sales. The least cited one is the achievement of stable prices. Long-term profit is considered more important than short-term profit.

Another survey done by Samiee (1987) set out to establish the role of pricing in the marketing plans of local and foreign companies operating on the American market as well as to find out how pricing decisions are made and what pricing objectives are set. The survey was carried out by mail with the executives of 104 American and 88 foreign companies and 12 in-depth interviews were conducted. The findings indicate that pricing plays a relatively less important role in the marketing strategies of foreign-based firms in the United States. Another major finding of this study indicates some differences between the U.S. and foreign-based companies' marketing objectives. Specified sales objective, profit maximisation, satisfactory ROI, and market-skimming objectives appear to be more important for foreign companies, whereas increasing or maintaining market share, competitive pricing, and meeting profit goals are more important for the U.S. group.

Diamantopoulos and Mathews (1994) investigate a large manufacturing company producing a wide range of repeat-purchase products (over 900 in all) organised into 21 products groups. The study is aimed at clarifying: (1) the relative popularity of maximisation versus satisficing formulations in respectively the short- and long-term pricing objectives; (2) the extent to which there is a 'switch' in the specification of a given objective across the two-time horizons; (3) the degree to which there is a difference in the importance attached to the same objective depending on whether maximisation or satisficing is sought; (4) the interrelationships between different objectives and (5) the impact of the external environment (i.e. market influences) on objectives specification. The findings indicate that maximisation and satisficing represent conceptually distinct motivational patterns of objectives specification. The very high ratings to long-term profit maximisation contrast sharply with the ratings, given in short term, when satisficing formulations were indicated in all cases. The most important objective is market share, followed by sales volume, money profit, sales revenue, profit margin and liquidity. The overall mean ratings for all objectives in the long-term appear to be consistently higher than their corresponding short-term equivalents. The study also revealed that, in fact, the interrelationships exist among pricing objectives. Looking at the nature of linkages, most indicate goal complementary rather than goal conflict. All market variables examined impact upon the specification of one or more short- and/or long-term objectives. Some

market characteristics have greater influence than others (e.g. non-price competition is related to more objectives then product substitutability).

Tzokas et al. (2000) aim to explore empirically the export pricing practices of industrial companies in the United Kingdom. The object of analysis is the data from 178 companies for which research was done in terms of pricing factors taken into account, pricing objectives, pricing policies and methods employed. The most frequently defined pricing objectives include: survival in the long run, customer value, target export profit, target export sales and customer price needs.

Avlonitis and Indounas (2005a) investigate the pricing objectives that service companies pursue along with the pricing methods that they adopt in order to set their prices. Data were collected from 170 companies operating in six different services sectors in Greece through personal interviews. The findings of the study reveal that the objectives which are pursued are fundamentally qualitative rather than quantitative in their nature with a particular emphasis given on company customers (attracting new customers, keeping the existing ones and satisfying their needs). Other important objectives were found to be the service quality leadership, the creation of a prestige image of the company and long-term survival. The pricing methods adopted by the majority of the companies include the traditional cost-plus method and the pricing according to the market's average prices. The study also revealed that pricing objectives are associated with pricing methods. The customer-related objectives along with competition-related objectives were found to be associated positively with the method of pricing according to the market's average prices, whereas the service quality-related objectives and the maximisation of profits and sales objectives in the survey were found to be associated negatively with this specific method. The financial objectives, along with the achievement of satisfactory profits and sales objectives were associated positively with the method of target return pricing, whereas the stability in the market objective was associated negatively with this method. The competition-related objectives were associated positively with the method of pricing according to the dominant price in the market and the method of pricing below competitors, whereas the market share and capacity-related objectives were also associated positively with the method of pricing below competitors. The competition-related objectives are bound to have a bearing on competition-based methods (i.e. pricing according to the dominant price in the market and pricing below competitors), whereas the financial objectives have a bearing on cost-based methods (i.e. target return pricing).

One of the most comprehensive surveys examining the relationship between the three key elements of pricing decisions – pricing strategies, pricing objectives and pricing determinants is that of Rao and Kartono (2009). It was carried out with 199 managers from 3 countries – the USA, India and Singapore. A conceptual model of pricing was developed based on an analysis of the literature on this matter. The survey aimed to check the applicability of the model in the part pricing strategies – pricing objectives – pricing determinants, to examine their correlation and to compare the results by country. The impact of various pricing determinants (market conditions, competitive conditions, product/company conditions, etc.) on the choice of pricing objectives was analysed. Regardless of the differences observed by country, it was found out that, generally, the most important objectives were those of increasing or keeping market share and increasing

or keeping sales volume. The least important objectives were those of avoiding government attention or intervention and undercutting competitor pricing. The most frequently used pricing strategy was cost-plus pricing. This was followed by price signalling, perceived value pricing and parity pricing /setting a price for the product that is comparable to that of the market leader or price leader/. The least frequently used pricing strategies were Internet pricing and both breakeven pricing and second market discounting. The survey results show that for the companies that adopted cost-plus pricing, the most significant pricing objectives are to increase or keep profit and to maintain a rational pricing structure; for the companies that adopted the strategy of parity pricing – competitor-based pricing, maintaining competitive level, erecting or maintaining barriers to entry and maintaining distributor support, etc.; and for the companies that adopted value-based pricing – preventing new players from entering the market and building long-term customer relationships involving consumer loyalty to a company and its products.

Indounas (2018) investigated the pricing objectives that service companies pursue to set their prices and to examine the impact of market structure on these objectives. Data were collected from 184 companies in Greece, operating in four different service industries. The findings indicate that the companies seem to follow a hierarchy of pricing objectives, in which their main focus is on the keeping of the existing customers and the attraction of new ones in order to ensure their long-term survival in their market without, however, disregarding financial issues and objectives. The study also revealed that the market structure, along with the sector of operation, has an impact on the pricing objectives pursued, as different market conditions were found to lead to different pricing objectives.

The review of the empirical studies on pricing objectives allows their classification into three groups:

- studies focused on the frequency of usage and the importance of the different pricing objectives for companies based on various criteria (the period of time they refer to, their quantitative or qualitative nature, the focus on maximisation or satisficing, their compatibility with one another, etc.) – Samiee (1987); Diamantopoulos and Mathews (1994); Avlonitis and Indounas (2005a); Indounas (2018) et al.;
- studies focused on revealing relations and correlations between pricing objectives and other pricing stages (taking into account the impact of pricing factors, choice of pricing strategy, choice of pricing method, etc.) – Tzokas et al. (2000); Avlonitis and Indounas (2005a); Rao and Kartono (2009) et al.;
- studies focused on clarifying the relations and correlations between various environmental factors (market conditions; competitive conditions, product/company conditions) and pricing objectives – Diamantopoulos and Mathews (1994); Tzokas et al. (2000); Rao and Kartono (2009); Indounas (2018) et al.

Pricing strategies

Some of the empirical studies are complex, with company pricing objectives and strategies being their object of analysis (Avlonitis and Indounas (2005a), Rao and Kartono (2009), etc.). Only empirical studies on pricing strategies are presented in this section.

A survey conducted by Hogan (2010) set out to establish if there is a correlation between the adopted pricing strategy and company financial results. It was carried out with managers from over 200 companies from different sectors of the economy. Its aim was to answer two questions: (1) which pricing strategies correlate with operating profit most and (2) which is the bigger source of profit – a good strategy or effective execution. It was found out that value masters, the companies developing and effectively implementing value-based strategy, have an operating profit which is on average 24% higher than the rest of the companies in the trade (which determine their prices based on costs and competition). It is noted that it is not sufficient to develop a good pricing strategy. It is important that price is a strategic priority to senior company management, that it is clearly defined and well-explained within the organisation. It is proved that companies that ensure these conditions have higher financial results.

Liozu and Hinterhuber (2013) conducted a survey of 1812 professionals in the field of pricing in order to measure the impact of the adopted pricing strategy on company results. The authors found out that the three basic pricing strategies have different influence on company pricing capacity, which is in close relation to company performance. A positive relationship between value-based pricing and company performance was established.

Ingenbleek and van der Lans (2013) set out to see if there is a relation between the pricing strategies and pricing practices that refer to the use of customer value, competition, and cost information. For this purpose, an online survey was conducted with CEOs of 95 small and medium-sized manufacturing and service firms in the Netherlands. The object of research was the pricing strategies and pricing practices of companies producing tangible products and/or offering services intended for B2C and/or B2B consumers. According to the researchers, pricing strategies are visible in the market, whereas pricing practices remain hidden within an organisation. The authors prove that there is a relation between pricing strategies and pricing practices because pricing strategies are implemented through pricing practices based on information about the value a product has for consumers, competition and costs.

Marinov (2017) did empirical research on innovations in Bulgarian companies. For this purpose, an online survey of 304 company managers was carried out. The companies operated in Bulgaria and had developed at least two new products over the last two years. It was found out that when launching new products on the market, the most popular pricing strategy is the competition-based one and the least popular strategy is value-based pricing.

Toni, Milan, Saciloto and Larentis (2017) suggested and tested a theoretical model showing the impact of the adopted pricing strategy on company profitability. For this purpose, data were collected for 150 industrial companies in the field of material production in Brazil, the pricing strategies adopted by them (value-based, competition-based and cost-based), price levels (high and low) as well as their influence on company profitability. It was established

that in terms of profitability, the best results are obtained with value-based pricing and high price levels whereas in the cases of value-based pricing and low price levels company performance is negatively affected.

Guerreiro and Amaral (2018) investigated whether the marketing researchers' claim that the use of cost-based pricing approach prevails over the use of value-based pricing approach is pertinent. The arguments, propositions and the case study findings provide the logical sequence and the support required to conclude that price-setting based on cost plus margin does not always conflict with the value-based pricing approach. As a result, it may be claimed that the general proposition established is theoretically valid, i.e. using a price formula, that contains the cost and margin elements, does not necessarily mean that the company sets prices based on cost.

The review of the empirical research on pricing strategies allows their classification into four groups:

- studies on the frequency of usage and the importance of the different pricing strategies for companies – Marinov (2017) et al.;
- studies focused on revealing relations and correlations between the adopted pricing strategies and other stages of the pricing process (setting pricing objectives, taking into account the influence of pricing factors, choice of pricing method, pricing practices, etc.) – Tzokas et al. (2000); Avlonitis and Indounas (2005a); Rao and Kartono (2009); Ingenbleek and van der Lans (2013) et al.;
- studies focused on clarifying the relations and correlations between the adopted pricing strategy and company performance – Hogan (2010); Liozu and Hinterhuber (2013); Toni, Milan, Saciloto and Larentis (2017) et al.;
- studies focused on the compatibility or controversial nature of cost-based pricing, competition-based pricing and value-based pricing strategy – Guerreiro and Amaral (2018).

Generally, in Bulgarian literature, there are no publications based on empirical research on the pricing objectives and strategies used by the companies operating in Bulgaria, which outline the specifics and trends of goal-setting and of choosing a pricing strategy, respectively. This study attempts to establish a realistic picture of the pricing objectives and, correspondingly, the adopted pricing strategies for their achievement of the companies operating in Bulgaria.

## 2. Research methodology

In accordance with the aim and research issues of this scientific study, the following working hypotheses are tested:

H1: There is no pricing objective that is common to all companies.

H2: Companies tend to set quantitative rather than qualitative pricing objectives.

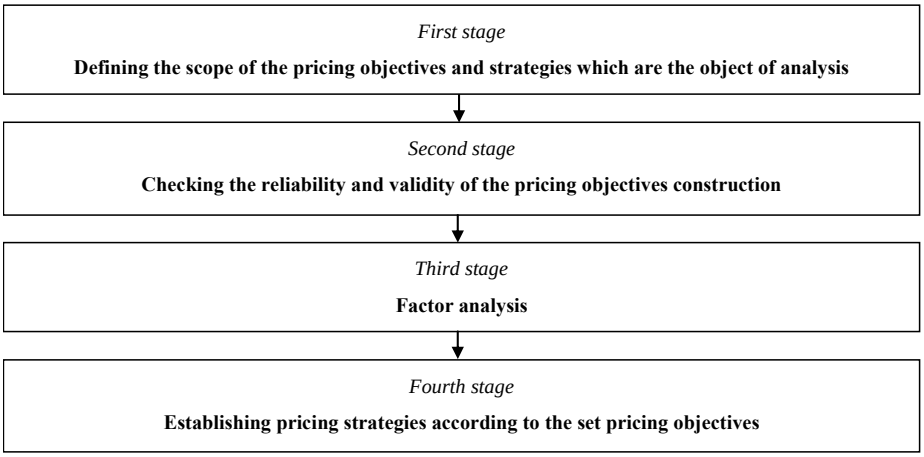
H3: Most quantitative objectives companies set can be achieved by using various pricing strategies. Qualitative objectives are the ones that are typical of a given pricing strategy.

The main method employed for data collection in the present study is the structured personal online survey carried out for the period of July–August 2017. First, 20 in-depth interviews with managers were conducted in order to cover best the respondents' professional language and answer formulations on which the final version of the online survey is based. The units observed in the survey are companies operating on Bulgarian territory (Bulgarian and foreign ones with a subsidiary or agency). The companies are from the material production and services sectors. The target respondent in each company is the CEO/ marketing director/ manager – the person that, depending on the company structure, is in charge of prices and pricing. The sample size is 200 surveyed units (companies) and the collected data are the object of analysis, which does not claim for a representation of the results in terms of the population. The research applies quota sampling based on two characteristics: company size (depending on employee number) and product type (material and non-material). The statistical data processing and analysis include: the reliability (Cronbach's alpha analysis) and construct validity (Kaiser-Meyer-Okin measure of sampling adequacy test, Bartlet's test of sphericity) of a questionnaire, determining pricing objectives (anti-image correlation matrix) in order to find out the corresponding pricing strategies for their achievement (factor analysis). The statistical hypotheses checks for all methods were carried out at a 5% risk of a type I error. The statistical data processing was carried out with the programs Factor and Jamovi.

The methodology of the current study consists of four stages (Figure 1).

Figure 1

A sequence of actions aimed at establishing pricing strategies according to the set pricing objectives




*Source: Developed by the authors.*

*First stage*

The list of pricing objectives is based on the one suggested by Oxenfeldt (1973) and Rao and Kartono (2009) and was complemented by objectives proposed by Diamantopoulos and Mathews (1994); Diamantopoulos (1995); Tzokas et al. (2000), which are typical of industrial companies, as well as by Avlonitis and Indounas (2005a, 2005b), which are applicable to companies from the services sector. The list includes both quantitative and qualitative objectives. Some of the objectives are long-term, others are short-term. The complexity of pricing decisions requires the formulation of more than one pricing objective over a given period (Oxenfeldt, 1973; Shipley, 1981; Diamantopoulos, 1991 et al.). That is why respondents were asked to choose from the suggested list one or more pricing objectives related to the main product. This is the company product with the highest sales revenue over the last calendar year. For the purposes of this survey, the respondents were given a list of 24 possible pricing objectives (Table 1), but they were able to add other objectives as well.

Table 1

Pricing objectives

| | |
|---|---|
| 1. Increasing long-term profit | 14. Survival |
| 2. Increasing or keeping short-term profit | 15. Building an image of the company and its products |
| 3. Achievement of satisfaction profit | |
| 4. ROI (Return on Investment) | 16. Building a positive attitude towards the company and its products |
| 5. Increasing or keeping sales volume | |
| 6. Increasing or keeping market share | 17. Creation of interest about the product |
| 7. Using the price of one product to support sales of other products in the same product line | 18. Quality leadership |
| | 19. Keeping the existing customers |
| | 20. Attraction of new customers |
| 8. Matching competitor pricing | 21. Building long-term customer relationships |
| 9. Avoiding price wars | 22. Retaining loyalty of middlemen and getting their support |
| 10. Achievement of price leadership | |
| 11. Discouragement of new competitors' entering into the market | 23. Achievement of social goals |
| | 24. Avoiding government intervention and control |
| 12. Accelerating the exit of major competitors | |
| 13. Price stability in the market | 25. Others |

Source: Adapted by Oxenfeldt (1973), Diamantopoulos and Mathews (1994), Diamantopoulos (1995), Tzokas et al. (2000), Avlonitis and Indounas (2005a, 2005b) and Rao and Kartono (2009).

As it was noted down in the theoretical review, pricing theory and practice offer a great variety of pricing strategies. The pricing strategies subject to analysis in this study are cost-based pricing, competition-based pricing and value-based pricing. The choice of these strategies is justified by the following arguments: *first*, these pricing strategies can lead to a change in the strategic positions of a company in the future; *second*, the opinions of the manager respondents in the 20 in-depth interviews; *third,* over the last years, it is these three pricing strategies that have been of greatest interest to the academic community, researchers and practitioners.

*Second stage*

In order to obtain reliable results, it should be proved that there are: *first*, reliability of the results regarding pricing objectives; *second*, construct validity of objectives.

- Reliability

Reliability indicates the consistency and repeatability of results. There are two kinds of reliability: *internal*, which checks a questionnaire or scale consistency and *external*, which checks results stability. For the purposes of this research, internal reliability is used because it aims to find out consistency between pricing objectives themselves (Table 2).

Table 2

Pricing objectives indicated by the companies

| Item / Firms | Item 1 [Price Object 1] | Item 2 [Price Object 2] | … | Item 24 [Price Object 24] |
|---|---|---|---|---|
| 1 | Yes/No | Yes/No | … | Yes/No |
| 2 | Yes/No | Yes/No | … | Yes/No |
| … | … | … | … | … |
| 200 | Yes/No | Yes/No | … | Yes/No |

*Source: Developed by the authors.*

Proving that pricing objectives are consistent with one another will mean that they are homogeneous and measure the same thing (Tang, Cui, Babenko, 2014).

The most common methods for assessment of the internal reliability of a scale are the split-half-reliability and Cronbach's alpha coefficient. The scale here means a group of variables (in our case, these are the objectives indicated by the companies) measured by the same construct.

The method of split-half-reliability divides variables into two groups and, based on this, assesses the reliability of the whole scale. Since the assessment depends to a great extent on how pricing objectives will be split into the two groups, this leads to different results.

Cronbach's alpha coefficient solves this problem by calculating the average reliability of all possible split-half reliabilities based on a scale. The calculations with this coefficient are based on more information which makes it a better measure for the assessment of internal reliability (Howitt, Cramer, 2011). In our case, to measure the internal reliability, we have to use a special case of Cronbach's coefficient: Kuder-Richardson 20 index. It is applied for variables with binary choices such as the possible answers (Yes/No) regarding each pricing objective (Kuder and Richardson, 1937). In some cases, the Kuder-Richardson index and Cronbach's alpha coefficient lead to the same assessment, but the assessment with Cronbach's alpha is sustainable as well. This is the case when the variables construct of objectives is a multidimensional scale and there are no missing values of the variables. The values for both coefficients range between 0 and 1 where 0 means no reliability and 1 means perfect reliability (Naidenov, 2015). The calculated coefficient must exceed 0.50; otherwise, reliability is considered low and insufficient.

- Validity

Validity shows the extent to which a particular instrument measures what it is designed to measure (Robson, 2011) and assesses how truthful research results are.

Three main types of validity are distinguished: content validity, criterion validity and construct validity. According to Cronbach and Meehl (1955), when there is no criterion to correlate the test against, a validation of the construct itself must be carried out. Since there has not been done any other research in the field of setting price objectives by the companies in the country, it is not possible to make a comparison. This requires a validation only in terms of the objectives of the internal construct. Construct validity is considered the commonest of the three types of validity, that subsumes content and criterion validity (Krabbe, 2017). The construct of pricing objectives must be validated in advance because it will serve as the basis for a subsequent factor analysis that will relate a particular pricing strategy to a particular pricing objective.

The instrument to validate the whole construct is the Kaiser-Meyer-Olkin Test which is a sampling adequacy test. This test assesses the proportion of variance in the variables (pricing objectives) that might be caused by underlying factors (strategies). The Kaiser-Meyer-Olkin coefficient ranges from 0 to 1 and in order to consider the sample adequacy satisfactory, its value must be over 0.50. Together with the Kaiser-Meyer-Olkin, the data will be checked with the Bartlet's test of sphericity. Bartlet's test makes it possible to answer the question about the suitability of the data for factor analysis. If after the check with this test, it turns out that the level of significance is lower than the expected risk of a type I error, then the data are considered suitable for factor analysis.

*Third stage*

Factor analysis finds factors that are hidden and cannot be measured directly. There are two types of factor analysis – confirmatory factor analysis and exploratory factor analysis. Since it is not known in advance which strategy will be employed for given objectives, exploratory factor analysis will be used. It can also be used for the validation of the objectives construct in order to confirm the results received from the second stage. Generally, factor analysis is based on Pearson's correlation coefficients, but in our case, the objectives are given with binary answers (Yes/No) and it is more appropriate to use tetrachoric correlation (Savaley, Bonett, Bentler, 2015).

It is necessary to make it clear that factor analysis is not used in its classic version where strategies are factors for price objectives grouping. The idea here is to use its instruments in order to group the objectives that will, later on, be related to the corresponding pricing strategies.

*Fourth stage*

Based on factor analysis, there will be established the pricing strategies used by companies to achieve given pricing objectives. If two objectives are related, the relation is due to the

fact that they both have a common feature that cannot be observed directly. In our case, we want to group the objectives for the achievement of which is applied one of the three pricing strategies (cost-based pricing, competition-based pricing, value-based pricing) that play the role of hidden (latent) factors. In order to decide which pricing objectives to include in the factor analysis, the anti-image correlation matrix will be used. Each objective on the diagonal of the matrix with a value bigger than 0.50 will be included in the analysis (Goev et al., 2019). The rest do not have a correlation with the other pricing objectives that is strong enough. They have a universal nature and can be achieved by employing any of the three pricing strategies.

## 3. Empirical results and analysis

Depending on the market they operate on, 60% of the companies are Bulgarian ones operating entirely on the domestic market, 26% are Bulgarian companies operating on both the domestic and foreign markets, and 14% are foreign companies operating on the domestic market. In terms of the number of employees, in 24% of the companies from the sample, the average monthly number of employees is up to 9, in 29% – from 10 to 49 people, in 30.5% – from 50 to 249 people and in 16.5% – 250 and over employees. In terms of consumer type – 65% of the companies in the researched aggregate sell mostly to end consumers (B2C) and 35% – mostly to business consumers (B2B). In terms of the nature of the products offered – 50% of the companies from the sample offer mostly material products and 50% offer services.

As it was mentioned in stage 1 of this study methodology, the object of analysis are 24 pricing objectives. None of the survey respondents indicated that in their company are defined objectives different from the ones enumerated in the survey. The complete list of pricing objectives and their frequency distribution are given in Table 3.

The survey results show that less than 1.5% of the companies in the sample have only one pricing objective. More than three pricing objectives were indicated by 27.5% of the companies. On average, every company indicated between three and four pricing objectives it set in relation to its main product. Most often, the pricing objectives set by the companies from the sample are: increasing or keeping of sales volume (14.7%) and the achievement of satisfaction profit (11.3%) followed by increasing long-term profit (9.9%), return on investment (8.7%) and increasing or keeping market share (8.6%). The low percentage of the most frequently indicated pricing objective of increasing or keeping sales volume (14.7%) shows that none of the pricing objectives can be defined as common to all businesses which confirms our first hypothesis (H1). The least indicated pricing objective is avoiding government intervention and control (0.3%). This can be explained with the small number of companies whose product prices are subject to state regulation.

Table 3

Frequency distribution of pricing objectives

| Pricing objective | Frequency, (%) |
|---|---|
| 1. Increasing long-term profit | 73 (9.9%) |
| 2. Increasing or keeping short-term profit | 33 (4.5%) |
| 3. Achievement of satisfaction profit | 83 (11.3%) |
| 4. ROI (Return on Investment) | 64 (8.7%) |
| 5. Increasing or keeping sales volume | 108 (14.7%) |
| 6. Increasing or keeping market share | 63 (8.6%) |
| 7. Using the price of one product to support sales of other products in the same product line | 13 (1.8%) |
| 8. Matching competitor pricing | 23 (3.1%) |
| 9. Avoiding price wars | 8 (1.1%) |
| 10. Achievement of price leadership | 9 (1.2%) |
| 11. Discouragement of new competitors' entering into the market | 4 (0.5%) |
| 12. Accelerating the exit of major competitors | 3 (0.4%) |
| 13. Price stability in the market | 12 (1.6%) |
| 14. Survival | 13 (1.8%) |
| 15. Building an image of the company and its products | 46 (6.3%) |
| 16. Building a positive attitude towards the company and its products | 25 (3.4%) |
| 17. Creation of interest about the product | 16 (2.2%) |
| 18. Quality leadership | 28 (3.8%) |
| 19. Keeping the existing customers | 18 (2.4%) |
| 20. Attraction of new customers | 44 (6.0%) |
| 21. Building long-term customer relationships | 36 (4.9%) |
| 22. Retaining loyalty of middlemen and getting their support | 5 (0.7%) |
| 23. Achievement of social goals | 6 (0.8%) |
| 24. Avoiding government intervention and control | 2 (0.3%) |
| Total | 735 (100%) |

Note: The number of answers is bigger than the number of firms, because every firm can indicate more than one pricing objective.

*Source: Authors' calculations.*

Usually, a quantifiable objective is combined with several qualitative ones, even though it is not an exception to have cases in which several quantifiable objectives are combined. Conversely, setting qualitative objectives only is observed with only 7.5% of the companies.

The number of the quantifiable objectives (increasing or keeping sales volume, the achievement of satisfaction profit, increasing long-term profit, increasing or keeping the short-term profit, return on investment, increasing or keeping company market share)) is smaller – only 6, but as a percentage, they amount to 57.7% of all answers given regarding pricing objectives. This confirms the second hypothesis (H2), which states that more often companies set quantitative rather than qualitative objectives.

Of the pricing objectives related to profit, companies give 1.4 % more to the pricing objective of achievement of satisfaction profit compared to the pricing objective of increasing long-term profit as well as 5.4 % more to the pricing objective of increasing long-term profit compared to the pricing objective of increasing or keeping the short-term profit.

Defining the pricing objectives that will be used for establishing the pricing strategies for their achievement was found out with the results from the anti-image correlation matrix given in Table 4.

Table 4

Anti-image correlation matrix

| Pricing objective | Diagonal value | Pricing objective | Diagonal value |
|---|---|---|---|
| 1. Increasing long-term profit | 0.387 | 13. Price stability in the market | 0.424 |
| 2. Increasing or keeping short-term profit | 0.532 | 14. Survival | 0.441 |
| 3. Achievement of satisfaction profit | 0.551 | 15. Building an image of the company and its products | 0.751 |
| 4. ROI (Return on Investment) | 0.366 | 16. Building a positive attitude towards the company and its products | 0.814 |
| 5. Increasing or keeping sales volume | 0.384 | 17. Creation of interest about the product | 0.736 |
| 6. Increasing or keeping market share | 0.606 | 18. Quality leadership | 0.785 |
| 7. Using the price of one product to support sales of other products in the same product line | 0.631 | 19. Keeping the existing customers | 0.694 |
| 8. Matching competitor pricing | 0.535 | 20. Attraction of new customers | 0.718 |
| 9. Avoiding price wars | 0.551 | 21. Building long-term customer relationships | 0.723 |
| 10. Achievement of price leadership | 0.647 | 22. Retaining loyalty of middlemen and getting their support | 0.712 |
| 11. Discouragement of new competitors' entering into the market | 0.723 | 23. Achievement of social goals | 0.589 |
| 12. Accelerating the exit of major competitors | 0.550 | 24. Avoiding government intervention and control | 0.536 |

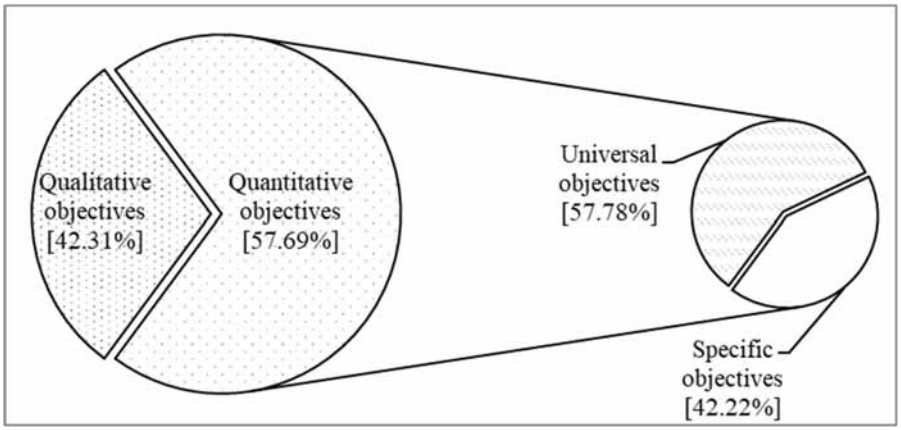
*Source: Authors' calculations.*

Five of the pricing objectives – increasing long-term profit, return on investment, increasing or keeping sales volume, price stability in the market and survival, have values received on the diagonal of the anti-image correlation matrix (Table 4) that are lower than 0.50 which shows that they do not have a really clear relation to the other objectives. These pricing objectives can be achieved by using each of the pricing strategies, which makes it

possible to define them as universal and form a separate group that is not part of the factor analysis. The universal pricing objectives are indicated in 36.7% of all answers. Three of them are of quantitative nature: increasing long-term profit, return on investment, increasing or keeping sales volume. The fourth and the fifth: price stability in the market and survival are of qualitative nature. Quantitative objectives of universal nature are 57.78% of all answers about quantitative objectives (Figure 2). This confirms the third hypothesis (H3) in the part stating that most of the quantitative objectives set by companies can be achieved by employing any of the three basic pricing strategies: cost-based pricing, competition-based pricing or value-based pricing.

Figure 2

Relative share of the universal and specific quantitative objectives



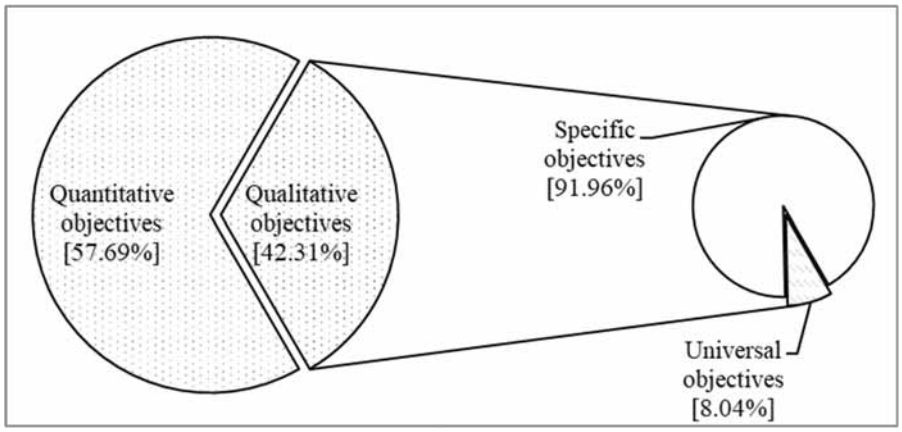

*Source: Developed by the authors.*

The other 19 pricing objectives are of qualitative nature (except for increasing or keeping market share) and have values higher than 0.50 on the diagonal of the anti-image correlation matrix (Table 4) which means that they correlate. In order to achieve them, companies employ one of the three basic pricing strategies: cost-based pricing, competition-based pricing or value-based pricing and they have a specific nature. Qualitative objectives are of specific nature according to 91.96% of the answers regarding qualitative objectives (Figure 3). This confirms the third hypothesis (H3) in the part stating that qualitative objectives are the objectives specific of a given pricing strategy.

The nineteen specific pricing objectives will be divided into three groups in order to find out what pricing strategy is used for their achievement. For them, a reliability and validity checks were done by using Cronbach's coefficient, Kaiser-Meyer-Olkin coefficient and Bartlett's test of sphericity. The values received are given in Table 5.

Figure 3

Relative share of the universal and specific qualitative objectives




*Source: Developed by the authors.*

Table 5

Assumption checks

| Coefficient | Value |
|---|---|
| Cronbach's α / Kuder-Richardson 20 index | 0.650 |
| Kaiser-Meyer-Olkin | 0.704 |
| Bartlett's Test of Sphericity | 0.000 |

*Source: Authors' calculations.*

As it was mentioned in the methodology section, there are two conditions under which the value of the Kuder-Richardson 20 index coefficient is the same as that of the Cronbach's α coefficient. The condition requiring a multidimensional scale of the variables construct is fulfilled because there is more than one strategy behind the pricing objectives. The other condition is fulfilled as well for all respondents provided answers. The value of the Cronbach's α / Kuder-Richardson 20 coefficients index amount to 0.650, which is a reason to claim that there is moderate data reliability (Tan, 2009). The total sample adequacy calculated based on the Kaiser-Meyer-Olkin coefficient amounts to 0.704, which means that adequacy is moderate as well (Kaiser, 1974). With the Bartlett's test of sphericity, we confirm that it is possible to apply factor analysis for pricing objectives since the level of test significance (Sig.= 0.000) is lower than the acceptable risk for a I type mistake (α = 5%).

The data in Table 6 show what part of the pricing objectives is achieved by using a particular pricing strategy. To achieve 17.35% of the pricing objectives, one pricing strategy can be used, for 10.75% – another pricing strategy and for 7.68% – a third pricing strategy. Altogether, with the three pricing strategies are achieved 35.78% of all pricing objectives are achieved by using the three strategies (cumulative %). The other part up to

100% is due to the free variation of objectives, that is not related to the three pricing strategies.

Table 6

Variance Explained

| Factor | S.S. Loadings | % of Variance | Cumulative % |
|---|---|---|---|
| 1 | 3.469 | 17.346 | 17.346 |
| 2 | 2.150 | 10.750 | 28.095 |
| 3 | 1.536 | 7.679 | 35.775 |

*Source: Authors' calculations.*

The results from the factor analysis are given in Table 7, where the objectives are divided into three groups, with each of them related to one of the three pricing strategies. A given pricing strategy is related to the objective with which their correlation coefficient has the highest value.

Table 7

Component matrix (N=200)

| Pricing objective | Price strategy 1 | Price strategy 2 | Price strategy 3 |
|---|---|---|---|
| Increasing or keeping short-term profit | .346 | | |
| Achievement of satisfaction profit | .375 | | |
| Avoiding price wars | -.434 | | |
| Discouragement of new competitors' entering into the market | .568 | | |
| Avoiding government intervention and control | .598 | | |
| Matching competitor pricing | | .639 | |
| Achievement of price leadership | | .562 | |
| Accelerating the exit of major competitors | | .753 | |
| Using the price of one product to support sales of other products in the same product line | | .685 | |
| Increasing or keeping market share | | | -.306 |
| Building an image of the company and its products | | | .592 |
| Building a positive attitude towards the company and its products | | | .601 |
| Creation of interest about the product | | | .514 |
| Quality leadership | | | .615 |
| Keeping the existing customers | | | .691 |
| Attraction of new customers | | | .687 |
| Building long-term customer relationships | | | .631 |
| Retaining loyalty of middlemen and getting their support | | | .434 |
| Achievement of social goals | | | .379 |

Note: Extraction Method: Principal component analysis.

*Source: Authors' calculations.*

A researcher is faced with the challenge of deciding which pricing strategies match given pricing objectives. The arguments are based on the specific features of the three pricing strategies (section 1.1.) as well as on the opinions of the respondent managers who took part in the in-depth interviews (section 2).

*Pricing strategy 1* is employed to achieve the following pricing objectives: increasing or keeping the short-term profit, achievement of satisfaction profit, avoiding price wars, discouragement of new competitors' entering into the market and avoiding government intervention and control. What lies behind these pricing objectives is managerial prudence, not proactive pricing action. This means increasing or keeping short-term instead of long-term profit; achievement of satisfaction profit instead of aiming at an optimal profit; avoiding price wars and state control (avoiding implying being passive, not active); discouragement of new competitors' entering into the market instead of achievement of leadership positions in the market. To achieve these pricing objectives, it is most appropriate to use a cost-based pricing strategy.

*Pricing strategy 2* is applied to achieve the following pricing objectives: matching competitor pricing, achievement of price-leadership, accelerating the exit of major competitors and using the price of one product to support sales of other products in the same product line. What these objectives have in common is the relation to competition, not to company performance. In this sense, to achieve them, it is best to apply the competition-based pricing strategy.

*Pricing strategy 3* is used to achieve the following pricing objectives: increasing or keeping market share, building an image of the company and its products, building a positive attitude towards the company and its products, creation of interest about the product, quality leadership, keeping the existing customers, attraction of new customers, building long-term customer relationships and retaining middlemen's loyalty and getting their support, and achievement of social goals. These pricing objectives are oriented towards a company with its customers and partners. When formulating them, words with an active meaning are used such as building, creation, attraction, keeping, retaining and achievement. These pricing objectives could be considered as implying a strive for creating consumer value (creating company and company products image, a positive attitude towards the company, interest in the company and its products, developing high-quality products), capturing value from customers (by building a long-term relationship with them, being socially responsible, keeping customers and attracting new ones) and loyalty to company partners. That is why the most appropriate strategy for the achievement of these pricing objectives is a value-based pricing strategy.

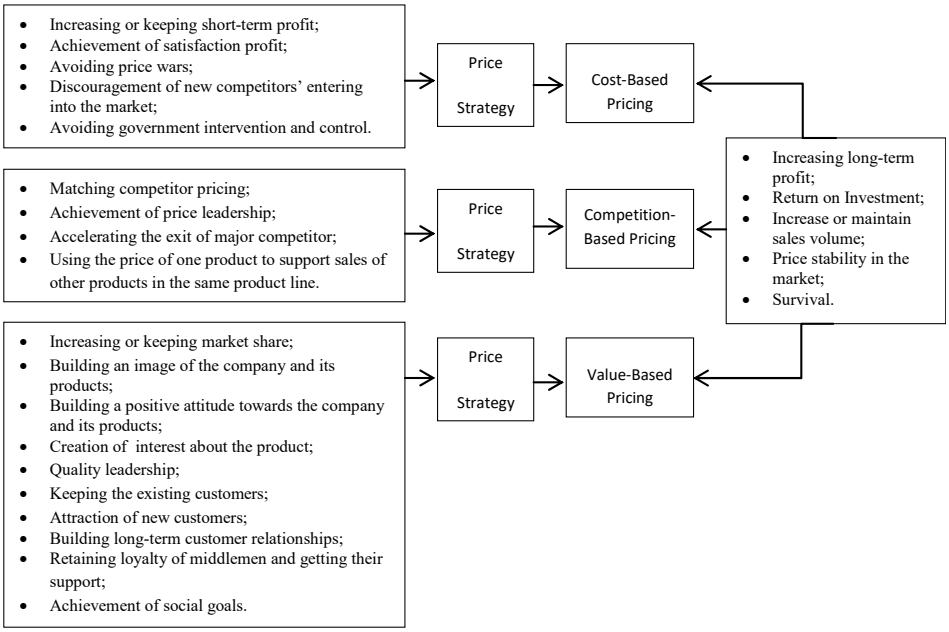
The survey results are presented schematically in Figure 4.

The figure shows the relation between the three groups of pricing objectives and pricing strategies. On the left, there are the specific pricing objectives divided into three groups, each of which is related to a particular pricing strategy. On the right, there are the five universal pricing objectives which can be achieved by using any of the three pricing strategies.

To sum up, based on the empirical results mentioned in the methodology section, a check of the working hypotheses has been done and its results are given in Table 8.

Figure 4

Pricing objectives and pricing strategies for their achievement




*Source: Developed by the authors.*

Table 8

Hypotheses check results

| | **Hypothesis** | **Result** |
|---|---|---|
| H1: | There is no pricing objective that is common to all companies. | ☑ |
| H2: | Companies tend to set quantitative rather than qualitative pricing objectives. | ☑ |
| H3: | Most quantitative objectives companies set can be achieved by using various pricing strategies. Qualitative objectives are the ones that are typical of a given pricing strategy. | ☑ |

*Legend:* ☑ *– confirmed* ☒ *– rejected*

*Source: Developed by the authors.*

The table shows that all working hypotheses have been confirmed completely.

## Conclusion

The current study has been the first one focused on the pricing objectives set by the companies operating in Bulgaria as well as on the pricing strategies for their achievement. The object of research are 24 pricing objectives and three pricing strategies – cost-based pricing, competition-based pricing and value-based pricing.

The findings indicate that the most common pricing objectives set by the companies operating in Bulgaria are of quantitative nature and include increasing or keeping sales volume, achievement of satisfaction profit, increasing long-term profit, return on investment and increasing or keeping market share.

The present study is original because it distinguishes two groups of pricing objectives – of universal and of specific nature. It has been established that mostly quantitative objectives are of universal nature. They are of greater importance to companies and any of the three pricing strategies can be used for their achievement. Mostly qualitative objectives are of a specific nature. With them, the price is used as a marketing tool in a different way and for their achievement companies employ one of the three pricing strategies: cost-based pricing, competition-based pricing or value-based pricing. In terms of qualitative objectives, it has been established which strategy should be applied for each of the pricing objectives groups.

This study is significant because of the practical and applied nature of its findings. The potential users of the survey results are the managers responsible for prices and pricing in the respective companies. These results can be used as a guide to the pricing strategies they should develop according to the pricing objectives.

In the future, in order to obtain a more profound understanding of company pricing, the findings could be expanded by examining the relationship pricing factors – pricing objectives – pricing strategies – pricing methods. This would allow a deeper insight into the complexity and secrets of company pricing.

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# OVEREDUCATION AND ECONOMIC GROWTH: THEORETICAL BACKGROUND AND EMPIRICAL FINDINGS FOR THE REGION OF CENTRAL AND EASTERN EUROPE[3]

*One of the issues which has gained considerable attention in the recent labour market literature is the increase of both average educational attainment of the population and qualification mismatch. With regard to that, this paper aims at examining the impact of overeducation on long-run economic growth. It discusses the main transmission channels and mechanisms of that impact. Moreover, by incorporating qualification (mis)match in the neoclassical model of growth with human capital the study presents an empirical estimation of the link between mismatch of tertiary education graduates and real GDP per capita growth across the EU members from Central and Eastern Europe. The results show that though investments in human capital accelerate the rate of growth, the higher percentage of mismatched graduates displays a negative effect. This outcome is robust to the changes of the approach used to measure overeducation and the method of estimation as well.*
*JEL: I25, E24, E27, E13*

## Introduction

The rising average educational attainment of the population, accompanied by an increasing extent of qualification mismatch in the labour market, has been widely acknowledged in the recent economic studies. The qualification mismatch is defined as a difference between one's educational degree completed and the qualification required by his or her job.[4] It is classified as either horizontal or vertical. Eurostat (2009, p. 131) defines horizontal

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[4]It must be noted that the qualification or education mismatch refers to the educational attainment of a worker. A broader category called "skill mismatch" has also been defined in the relevant studies, though the two terms – qualification mismatch and skill mismatch – have often been used interchangeably. Skill mismatch assumes a differences between the overall skills which an individual acquires by various means including formal education and the skills required by his or her job. It is measured most often on the basis of subjective worker's self-assessment. On the other hand, qualification mismatch is related mostly to person's education. It is a difference between one's educational attainment and educational degree required by one's occupation. With regard to that, the terms "qualification mismatch" and "education mismatch" are used as synonyms in the relevant literature as it is here. They are used interchangeably throughout the paper.

mismatch as an employment position, which is not in the same field as the educational qualification of the employee. An example would be a person with a bachelor the degree in Finance who performs a job requiring a bachelor degree in Information Technology. On the other hand, vertical qualification mismatch is employment below or above the theoretical skill level acquired (Eurostat 2009, p. 131). A worker is said to be over/under-qualified if he or she has a higher/lower educational level than needed for the job performed.

Here, the focus is on vertical qualification mismatch. According to the estimates, about one-third of workers in the developed world experience qualification mismatch (OECD, 2013) as the vertical mismatch prevails. It appears to be rather a persistent than temporary phenomenon (Mavromaras et al., 2013). The primary reasons for that is the continuously increasing participation in education. As a result, the supply of education by degrees outpaced its demand. Another reason is the accelerating exit rates of older workers who usually possess lower education than younger people entering the active population.

The relevant papers examine mostly the size of the qualification mismatch or the factors which determine it as in Goos, Manning, & Salomons (2009), Beaudry, Green, & Sand (2013), Kupets (2016), Erdsiek (2016), and Verhaest, Sellami, & Van der Velden (2017). Another popular issue is the impact of mismatch on wages or wage inequality (Budria & Moro-Egido 2008; Autor & Dorn 2013) as well as unemployment (Birk 2001). Verhaest & Omey (2006) and McGowan & Andrews (2015**)** consider the impact of mismatch on labor productivity.

With regard to the abovementioned, the purpose of this study is twofold. On the one hand, it aims at summarizing the transmission channels and mechanisms through which vertical qualification mismatch specifically overeducation affects per capita income growth. To the best of authors' knowledge, there is no study presenting a theoretical explanation of that relation. The papers which are discussed in the next section examine the impact of over- or undereducation on determinants of the growth rate such as productivity, wages, investments, etc. With regard to that, these studies create a basis for an explanation on how mismatch might affect GDP per capita changes. On the other hand, the paper tries to quantify the impact of overeducation of tertiary education graduates on the real GDP growth rate by examining the 11 new EU member states from Central and Eastern Europe, henceforth NMS.

The paper is organized as follows. Section 1 describes the theoretical background by summarizing the studies on qualification mismatch. Section 2 discusses the approaches used to measure the vertical qualification mismatch and outlines the trends across the NMS. Section 3 describes the methodology of the study and presents an analysis of the empirical outcome. Section 4 tests the robustness of regression output by adopting a dynamic approach to education mismatch. The last part of the paper presents some concluding remarks.

The primary contributions of the study to the existing literature might be summarized as follows. First, it develops a theoretical framework of the impact of qualification (mis)match on economic growth. Second, it modifies the augmented neoclassical model of growth with human capital by differentiating between well-matched and mismatched labour. Last but not least, the study goes beyond the static measurement of overeducation by developing a dynamic view to the vertical qualification mismatch of tertiary education graduates.

## 1. Vertical qualification and economic growth: transmission channels and mechanisms

Qualification mismatch could influence the rate of economic growth in a number of ways. By referring to the relevant theoretical and empirical studies, the next lines propose a theoretical explanation of that relationship. The most straightforward supply-side relation is through the impact of (mis)match on labour productivity. According to the theory of human capital, rising educational attainment is a factor for better productivity since it is believed to develop or upgrade the individual's skills and knowledge. In the case of perfectly competitive markets, the real wage should equal the worker's marginal product. All other things being equal, over/under-qualified employees earn higher/lower wages than their well-matched peers, thus signalling differences in their productivity (Quintini, 2011). Since, on its side, productivity is positively linked to income per capita growth, a rise of overqualification among employees is expected to enhance the long-run growth prospects.

It must be noted that the abovementioned explanation suffers from two major drawbacks. First, it implies that the human capital stock possessed by an individual is the primary factor determining his or her productivity. Second, it assumes that the wage equals the marginal worker productivity. Thus, a higher/lower wage is considered an indicator of higher/lower productivity. But, in case of market failures such as imperfectly competitive markets, collective bargaining, employers' discriminating practices or rent-seeking behaviour, the higher wage of an over-educated worker does not necessarily mean that he/she is more productive. Moreover, in terms of Spence's theory (1973), the higher educational degree is a signal for higher qualification motivating employers to pay more to the university graduates without taking into account their productivity (see, also Garcia-Mainar & Montuenga 2019). All that might lead to wrong conclusions regarding the impact of qualification mismatch on productivity and, hence, economic growth.

Among the empirical studies which find a positive relation between overeducation and productivity are those of Van der Meer (2006) and McGuiness and Sloan (2011). Opposite to them, Rumberger (1987) points out that the years over the required schooling do not increase productivity significantly since the workers cannot fully utilize the additional skills and capabilities being acquired at school. On the other side, using data for Belgian firms Mahy et al. (2015) conclude that the direct impact of overeducation on productivity is conditional upon a number of factors such as a higher share of high-skilled jobs, knowledge-intensive industries as well as the degree of uncertainty of the economic environment.

An alternative explanation of the link between vertical qualification mismatch and productivity arises from the theories in the field of organizational behaviour by relating mismatch to job satisfaction. Workers with higher than the required level of skills or education would not be fully satisfied by their current occupations which might be harmful for their productivity. Additionally, decreasing satisfaction at work would lead to a higher job turnover, especially for educated individuals, which, in turn, would affect firm's performance negatively. In contrast with the previous explanation, this one implies a negative relation between qualification mismatch, productivity and the real growth rate. In this line, support for such an adverse effect of mismatch on job satisfaction could be found

in Tsang et al. (1991), Battu et al. (1999), Verhaest and Omey (2009). But, in this line of thinking, another strand of literature indicates that more than required educated workers possess characteristics such as consciousness (Barrick, Mount, 1991) or better work attitude (Weiss, 1995) positively correlating with their productivity.

Besides, the abovementioned within-firm effects economic growth might be influenced by reallocation effects of qualification mismatch on aggregate productivity. McGowan and Andrews (2015) claim that in an economy where companies with different productivity levels co-exist, the less effective ones might hire the over-skilled labour thus not allowing for that labour to be efficiently utilized by more productive companies. This results in resource misallocation and lower productivity at a national level which consequently harms long-run growth potential.

A number of papers focuses on the direct effect of qualification mismatch on wages and returns of schooling (Bauer, 2002; Dorn, Sousa-Poza, 2005). Verdugo and Verdugo (1989) find a negative effect on the wages of persons, who possess education higher than the mean education of those in the same occupational group. Hartog (2000, p. 135) points out that, in overall, the returns of overeducation though positive, are lower than the returns for just matched education. According to the ORU (over-, required- and under-qualification) specification one additional year of overeducation leads to a lower wage premium compared to one additional year of schooling required for one's occupation. The former varies from half to two-thirds of the latter which means that individuals with an excess qualification face wage penalty compared to those who possess the right level of education for the job they hold. The returns of under-schooling appear to be negative. All these estimates imply that the higher extend of mismatch in an economy, especially the overqualification, would lead to a downward bias of the overall returns of education which consequently might suppress the growth rate.

Technology adoption or investments is the next channel of influence of mismatch on growth which is worth mentioning. Studies show that skill shortages reduce investments and R&D spending (Forth, Mason, 2006). In light of this, it is reasonable to assume that under-qualification or poor quality of education even in the case of many over-educated would affect growth negatively as long as skills are related to qualification. On the other hand, the rising educational attainment and overeducation in a certain economy might attract investors' attention, thus stimulating capital formation and growth.

The next channel concerns vacancies and the rate of unemployment. The differences between the qualification being supplied by the graduates and the qualification, skill and competences being demanded by the employers could prevent the latter from hiring over- or under-educated workers which are expected to increase the structural long-term unemployment (Mardsen et al., 2002; Birk, 2001) which adversely affects aggregate supply and GDP growth.

To the authors' knowledge, the only two studies which focus on the link between education mismatch and growth are those of Jaoul-Grammare and Guironnet (2009) and Ramos et al. (2009) producing contradictory results. But, they do not discuss explicitly the theoretical aspects of that relationship. The first paper estimates the causality between overeducation, wages and growth in France. The study finds that the higher share of over-educated workers

with a university degree exerts an unfavourable pressure on GDP at least in the short run by decelerating its rate of growth.

The paper of Ramos et al. (2009) utilizes two measures of vertical mismatch. A person is considered over-educated if his or her years of schooling are above the mode for the particular occupation in a given region and country. The second measure is based on the match between educational levels according to ISCED levels and occupations, according to ISCO. The sample comprises 26 NUTS-I regions, 72 NUTS-II regions and 164 NUTS-III regions across 6 European countries – Austria, France, Greece, Ireland, Portugal and Spain. Contrary to the previous study, the output indicates the existence of a positive statistically significant correlation between overeducation and the rate of real GDP increments at a regional level. The result for the under-educated workers is negative. That outcome might be explained by the opportunity for the educated workforce to take advantage of qualified jobs.

## 2. Overeducation: measurement and trends across the new EU member states

This section summarizes the approaches used to measure qualification mismatch and presents some statistical data on overeducation among university graduates. The measurement methods could be classified into two major groups: statistical data assessment and workers' self-assessments. One popular approach of the first type is based on systematic job analysis. It involves a comparison between the educational degrees according to the International Standard Classification of Education (ISCED) and the required degree according to the International Standard Classification of Occupations (ISCO) of Organization of Economic Cooperation and Development. This study is based on this measure of vertical qualification mismatch due to its objectivity and availability of comparable data for a large panel of European countries.

The main drawback of this approach is its implicit assumption that attainment of a certain educational degree guarantees the accomplishment of a set of presumed knowledge, skills and competences. But, the latter is dependent on the quality of education in the country as well as the personal characteristics in case of over- and under-achievers at school (Chevalier, 2003). Therefore, some persons might be wrongly identified as over-educated whilst, in fact, their real qualification just matches the job they hold since they have not acquired the skills that can be the basis of competence development after hiring. It is worth mentioning another important disadvantage of the method. It assumes fixed mapping over a longer period of time between the educational levels and job categories. But, in case of rapid changes in technologies, organizations and the way of doing business such a time-invariant map would not adequately represent the educational requirements for some occupations. As a result, an individual with a given educational degree who takes a lower-level job would continue to be classified as over-educated few years later while, actually, he or she might possess the right education for that job if the nature or the scope of the occupation has changed over the years without that being considered by the static mapping framework. On its side, that might bias the statistics regarding the extent of the qualification mismatch. One way to correct that is to subtract such workers from the

mismatched whereas counting them as properly educated. Such an approach is adopted in section 5 below.

The second method for approximating the extend of qualification mismatch assumes a comparison between one's education and the average educational level of workers in the job the person holds (Groot, van den Brink, 2000; Mendes de Oliveira, Santos, Kiker, 2000; Ramos et al., 2009). People whose level of education exceeds the mean, median or mode by, for example, one standard deviation are considered to be over-educated. This method results in an objective assessment since the proper education-occupation mapping is defined by the market. But, its important disadvantage is related to the quality of the country's educational system. If the school does not provide relevant skills and knowledge, there would be a downward bias in the evaluation of overeducation. The reason is that some people with higher educational degrees might take jobs located down the occupational ladder instead of jobs corresponding to their degree due to lack of presumed theoretical knowledge or skills. That might bias upward the mean educational level for some occupations. As a result, some of over-educated would misleadingly be counted as properly educated. An example is a woman with a bachelor degree who works as an office assistant. If a prevailing number of employees having completed tertiary education take such jobs, that woman would not be counted as over-educated while, in fact, her job does not require a university degree.

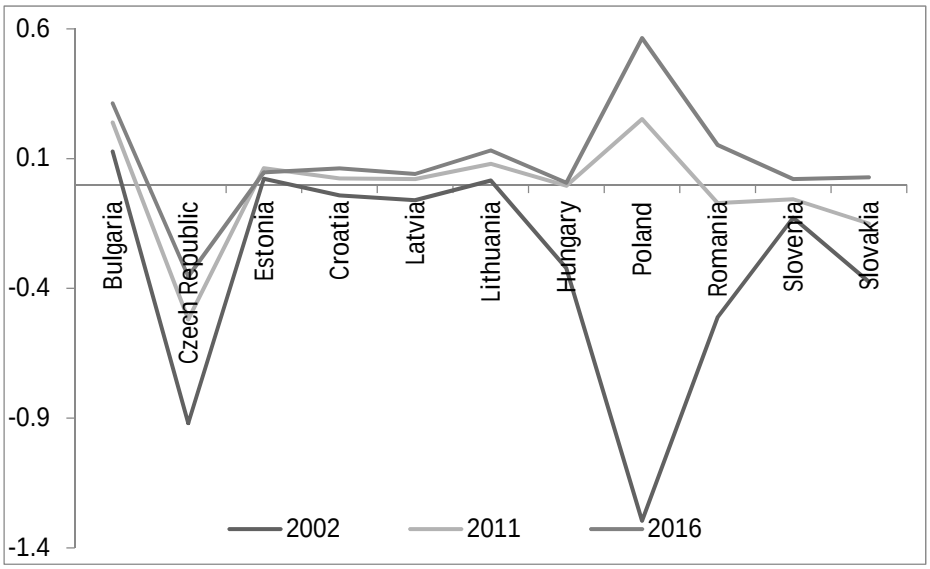
As it was mentioned above, the second group of methods is based on subjective self-assessments. A mismatch is recorded in case of a difference between the educational degree (or skills) required for the specific job taken by an employee and his or her actual educational level (or skills) (Frei, Sousa-Poza, 2005). Alternatively, one might report his or her opinion regarding the minimum level of education necessary to perform his or her job.

The study utilizes the first approach for measuring the degree of vertical qualification mismatch. Taking into account the mapping matrix being proposed by the International Standard Classification of Occupations (ISCO-08), the over-educated comprise the university graduates taking any job position different from Managers, Professionals, Technicians and Associate professionals. Utilizing that definition, figure 1 shows the rate of overeducation among the active population having completed university education across the eleven new EU member states. It compares the incidence of mismatch in 2000, 2011, and 2016.

Figure 1

Supply and demand of tertiary education across the new member countries*

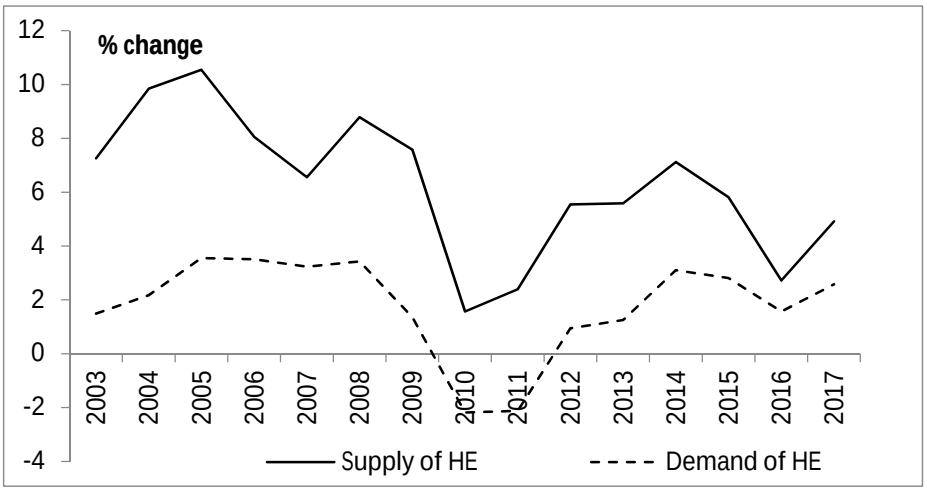
*(a) Supply minus demand of higher education*




* Difference between the number of tertiary education graduates representing the supply of higher education and the number of properly matched tertiary education graduates representing the demand of higher education. The values are expressed in thousands.

*Source: Eurostat, author's calculations.*

*(b) Percentage change in the demand and supply of higher education**




*Average values for the new member states are presented.

*Source: Eurostat, author's calculations*

The first graph illustrates the difference between the supply of university graduates in the active population (in thousands) and the demand calculated as the number of employees taking jobs requiring at least a bachelor degree (in thousands). It indicates the existence of a surplus of workers with higher education. That is clearly expressed since the year 2011 onwards. In 2016, all countries but the Czech Republic report a larger supply of university graduates in comparison with the demand. However, the second picture showing the rate of change of the respective supply and demand implies that recently (2016-2017) the supply of tertiary education approaches its demand thus shrinking the recorded surplus. In view of these figures, the next section draws attention on the impact of overeducation on GDP per capita growth rate.

## 3. Impact of vertical mismatch on the rate of economic growth: methodology of the study and empirical results

The model of economic growth with human capital developed by Mankiw, Romer and Weil (1992), henceforth MRW model, is a widely used instrument for exploring economic growth and its underlining determinants. An overview of its modifications could be found in Neycheva (2019). This study also utilizes the MRW model but, in order to examine the effect of overeducation of tertiary education graduates on long-run growth rate the model has been extended by differentiating between the stock of human capital and the vertically (mis)matched employees (see, eq. 6 below).

In this section, the rate of vertical qualification mismatch is measured by applying a static approach. It assumes a fixed mapping between one's educational degree completed according to ISCED (International Standard Classification of Education) framework and occupations based on the International Standard Classification of Occupations (ISCO). Following the descriptive analysis of mismatch of higher education graduates given above, the next section introduces a revised dynamic approached of estimating the rate of (mis)match. The annual data are supplied by the Labor Force Survey of the European Statistical Office (EUROSTAT). The survey presents the distribution of the graduates by a range of occupations following ISCO-08. The investigated time period is 2000-2016. The sample comprises Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia, Slovakia, and Croatia. The next lines present a mathematical description of the MRW model, the regression equations and the variables as well as the econometric output.

In the MRW model the Cobb-Douglas aggregate production takes the following form:

$$Y(t) = A(t) * K(t)^{\alpha} * H(t)^{\beta} * L(t)^{1-\alpha-\beta} \quad (1)$$

In equation (1) $Y$ is output, $K$ denotes the stock of physical capital, $H$ is the stock of human capital, while $VQM$ denotes vertically matched employees. $K$, $H$ and $VQM$ depreciate at an exogenous rate $\delta$. The supply of labour ($L$) is growing at rate $n$, while the level of technology ($A$) changes at rate $g$. The constants $\alpha$ and $\beta$ measure the elasticity of physical and human capital, respectively. As a result, the dynamic path of the capital inputs expressed in effective units of labour can be described as:

$$\dot{k_t} = s_k * y_t - (n + g + \delta) * k_t \quad (2a)$$

$$\dot{h_t} = s_h * y_t - (n + g + \delta) * h_t \quad (2b)$$

The small letters – $k = K/AL$, $h = H/AL$, and $y = Y/AL$ are for the quantities per an effective labour unit. $s_k$ and $s_h$ are the rates of accumulation of physical and human capital, respectively. The assumption of diminishing returns to capital implies that $\alpha + \beta < 1$. Under these initial conditions, the capital follows a convergence path to the steady-state ($k^*$, $h^*$) given by the system of equations (3):

$$k^* = \left(\frac{s_k^{1-\beta} * s_h^{\beta}}{n+g+\delta}\right)^{\frac{1}{1-\alpha-\beta}} \quad (3a)$$

$$h^* = \left(\frac{s_k^{\alpha} * s_h^{1-\alpha}}{n+g+\delta}\right)^{\frac{1}{1-\alpha-\beta}} \quad (3b)$$

In the above system of equations $k^*$ and $h^*$ denote the steady-state level of physical or human capital, respectively. Substituting (3) into the production function (1) and taking logs, one could come to two alternative ways of expressing the equilibrium level of income per capita ($y^*$): either as a function of human capital investments $s_h$ (4a) or as a function of the human capital level *HKSTOCK* (4b).

$$\log y^* = lnA(0) + gt - \frac{\alpha+\beta}{1-\alpha-\beta}\log(n + g + \delta) + \frac{\alpha}{1-\alpha-\beta}\log(s_k) + \frac{\beta}{1-\alpha-\beta}\log(s_h) \quad (4a)$$

$$\log y^* = lnA(0) + gt - \frac{\alpha}{1-\alpha}\log(n + g + \delta) + \frac{\alpha}{1-\alpha}\log(s_k) + \frac{\beta}{1-\alpha}\log(\text{HKSTOCK}) \quad (4b)$$

The empirical model built upon (4) should be data-dependent (Mankiw et al., 1992, p. 418). If the time series represents the stock of human capital, as in this case, the regression should be based on the second equation (4b). Equation (5) displays the growth dynamics toward equilibrium in terms of the steady-state human capital level (*HKSTOCK*).

$$\begin{aligned} \text{dlog}(y_t) \equiv \log(y_t) - \log(y_0) \\ &= \left(1 - e^{-\lambda t}\right)\log A_0 - \left(1 - e^{-\lambda t}\right)\log(y_0) + gt \\ &+ \left(1 - e^{-\lambda t}\right)\frac{\alpha}{1-\alpha}(\log(s_k) - \log(n + g + \delta)) \\ &+ \left(1 - e^{-\lambda t}\right)\frac{\beta}{1-\alpha}\log(HKSTOCK) \end{aligned} \quad (5)$$

The parameter $\lambda$ measures the rate of convergence to the equilibrium level of income per head. The baseline regression model (6) utilizes the last equation. However, in addition to the total human capital (*HKSTOCK*) it includes the rate of vertical qualification match (*VQM*) in equation (6a) or the rate of vertical qualification mismatch (*VQMIS*) in equation (6b) below.

$$\text{d}\log y_t = a_0 + a_1\log(y_0) + a_2(\log(s_k) - \log(n + g + \delta)) + a_3\log(\text{HKSTOCK}) + a_4\log(VQM) + \varepsilon \quad (6a)$$

$$\mathrm{d}\log y_t = a_0 + a_1 \log(y_0) + a_2(\log(s_k) - \log(n + g + \delta)) + a_3 \log(\mathrm{HKSTOCK}) + a_4 \log(VQMIS) + \varepsilon \quad (6b).$$

The dependent variable (*dlog* $y_t$) is the first difference of real Gross Domestic Product (GDP) per unit of active population calculated in logs. The output per unit at the beginning of each time period is presented by *log* $y_0$. The rate of investments in physical capital ($s_k$) is approximated by the fixed capital formation in both public and private institutions expressed as a share of GDP.

The rate of qualification mismatch (*log VQMIS*) in (6b) comprises the active population with tertiary education (ISCED 5-8) holding jobs different from Managers, Professionals, Technicians and Associate professionals expressed as a percentage of all tertiary education graduates in the labour force. It is also calculated in logs. Alternatively, the share of matched higher education graduates expressed in logs is denoted by *log VQM* in (6a). The overall stock of human capital (*HKSTOCK*) comprises the active population (15-74 years of age) having completed at least upper secondary education (ISCED 3-8). The construction of the variables in this way solves the problem of potential correlation between *HKSTOCK* on the one side and the variables *VQMIS* or *VQM* on the other side, which would adversely affect the econometric outcome. Thus, the correlation coefficient turns to be small (0.15) and insignificant.

The parameter *n* equals the percentage change of the active population between 15 and 74 years of age. In the relevant studies, the rate of capital depreciation ($\delta$) is usually set at 3% annually, while *g* is supposed to equal 2% per year. Therefore, for the sum ($g+\delta$), the annual value of 5% is used most often. In order to get estimates as close as possible to the real-life data, here *g* is approximated by annual productivity growth across the countries under investigation. The average value over the examined period for the sample as a whole is 3% per year. Therefore, with an annual depreciation rate of 3%, the value of ($g+\delta$) is fixed to 6% since it is seems more realistic.

In the regression models based on equation (6) the variables *dlog* $y_t$ *log* $y_0$, $s_k$, *VQM, VQMIS* and $n+g+\delta$ are introduced as five-year averages over the examined period i.e. 2000-2004, 2001-2006, and so on. That helps for the cyclical fluctuations in the economic activity to be flattened and the tendencies in the growth path to be examined. Appendix 1 presents a summary of descriptive statistics – mean and standard deviation – of the regression variables for the overall sample and by country as well. It reflects the structural differences across the new member states. The standard deviation expressed as a percentage of the panel mean is highest for the variable *log VQMIS* (14.8%). This is supported by Figure 1 above illustrating the dynamics of the differences between the supply and demand of higher education across the economies being considered here. The parameter *log* ($n+g+s$) also varies substantially – the standard deviation is about 10% of the sample average. This is due mainly to the differences in the growth rate of active population *n* as well as the rate of technical progress *g*.

With regard to that, it should be pointed out that as it is usual for panel data the econometric output sheds light on the link between education (mis)match and real GDP per

capita growth for the sample as a whole. It does not give a rationale for conclusions and implications on a country basis. In order to tackle the potential problem of heteroscedasticity or general correlation of observations within a cross-section, we use the Panel Estimated General Least Squares (EGLS) method with SUR (Seemingly Unrelated Regressions) weights (Beck, Katz 1995).

As it is reasonable, the variable log $y_0$ has a negative slope, thus proving the cohesion across the new EU members. The countries with a lower initial income per capita are expected to grow faster. The results also imply that the higher percentage of graduates whose education just matches the educational standards for their occupations accelerates the GDP per capita rate of change (Table 1, model 1). This is evident by the positive and statistically significant slope of the variable *VQM*.

Table 1

Estimation of the restricted MRW model[a] extended by the rate of vertical qualification (mis)match

| | Model 1[b] | Model 2 |
|---|---|---|
| Dependent variable: first difference of log GDP per a unit of active population (dlog yt) | | |
| const | -0.015<br>(0.242) | 1.153***<br>(0.315) |
| log $y_0$ | -0.167***<br>(0.006) | -0.164**<br>(0.012) |
| log $s_k$ -log (n+g+δ) | 0.095***<br>(0.009) | 0.084***<br>(0.014) |
| log HKSTOCK | 0.170***<br>(0.039) | 0.123*<br>(0.074) |
| log VQM[c] | 0.200***<br>(0.031) | |
| log VQMIS[c] | | -0.034***<br>(0.007) |
| N of obs. | 99 | 99 |
| adj. R sqr. | 0.913 | 0.734 |
| Normality of residual (p-value) | 0.205 | 0.233 |
| Pesaran CD test (p-value)[e] | 0.744 | 0.495 |

[a] The abbreviation MRW refers to the neoclassical growth model with human capital developed by Mankiw, Romer and Weil (1992)

[b] Panel EGLS estimates using period SUR weights are presented. Standard errors are in parentheses.

[c] Percentage of active population with higher education working as Managers, Professionals, Technicians and Associate professionals.

[d] Percentage of active population with higher education with any occupation different from Managers, Professionals, Technicians and Associate professionals.

[e] Pesaran's cross-section dependence test. Null hypothesis: No cross-section dependence in residuals.

On the contrary, qualification mismatch does not positively contribute to the rate of GDP growth (Table 1, model 2). Though small (-0.034), the regression coefficient for *log*

*VQMIS* is negative and statistically significant at the 5% level (see Table 1, model 2). Taking into account that this is a "log-log" relation, the result shows that if the share of the vertically mismatched holding at least a bachelor degree increases by one percentage point, the growth rate of aggregate output might decrease by 0.03%. The larger absolute value of the slope coefficient for the properly educated (0.2) implies that the impact of the qualification match on growth is stronger.

It must also be pointed out that in all cases, the variable measuring the country's overall human capital stock (*log HKSTOCK*) is also positively related to the growth rate in the long run. But, its impact is lower than that for properly educated employees (*log VQM*) due to the counter-effect of overeducation on the real GDP increments. Thus, the empirical outcome suggests that not only the overall quantity of human capital matters for the growth dynamics but also its distribution among just-, over-, and undereducated population.

## 4. Robustness of the regression output

The previous section relies on the static approach assuming fixed mapping over a long period of time between educational attainment and jobs (Sparreboom, Tarvid 2016, p. 23). As it was mentioned earlier, a major drawback of such an approach is that it does not take into account the impact of technological changes on workers' qualification, knowledge and skills. It is likely that employers respond to these new challenges to the labor market by increasing the qualification requirements for some jobs down the ladder, which having been traditionally occupied by people with lower educational background. In this vein, the abovementioned negative result about the link between overeducation and growth might be affected by this disadvantage of the static approach. In response to that in the current section, a revised "dynamic" view to vertical qualification mismatch is adopted.

Since 2011 onwards, the number of vertically mismatched employees are reduced by clerical support workers with higher education. The occupations include secretaries, office clerks and administrative assistants, receptionists, human resources specialists, labour relations specialists, bookkeeper assistant, etc. The reason is that individuals in these jobs intensively employ digital technologies to a greater or lesser extent. In the new member countries, their share changed almost three times since 2002 onwards – from 11.5% to 30.4% as a larger jump has been recorded after the year 2011.

A summary of descriptive statistics for the newly constructed variables *log VQMnew* and *log VQMISnew* is presented in Appendix 2. In all cases the vertical mismatch diminishes after subtraction of clerical support workers. However, the biggest percentage decrease has been recorded for the Czech Republic (10.5%), Romania, Croatia, and Slovakia (5.6%). These numbers indicate that in these economies a significant part of higher education graduates has been employed at positions of support workers requiring upper secondary education.

Table 2

Panel estimates[5] of the restricted MRW with a dynamic view of vertical (mis)match

| | Model 1 [a] | Model 2 |
|---|---|---|
| Dependent variable: first difference of log GDP per a unit of active population (dlog yt) | | |
| const | 0.283<br>(0.418) | 1.195**<br>(0.594) |
| log $y_0$ | -0.115***<br>(0.016) | -0.124***<br>(0.014) |
| log $s_k$ -log (n+g+δ) | 0.083***<br>(0.015) | 0.079***<br>(0.014) |
| log HKSTOCK | 0.169*<br>(0.098) | 0.184*<br>(0.099) |
| log VQMnew[b] | | -0.168**<br>(0.077) |
| log VQMnew*dummy | | -0.024***<br>(0.002) |
| log VQMISnew[c] | 0.060***<br>(0.017) | |
| log VQMISnew*dummy | -0.041***<br>(0.004) | |
| N of obs. | 99 | 99 |
| adj. R sqr. | 0.817 | 0.821 |
| Normality of residual (p-value) | 0.554 | 0.503 |
| Pesaran CD test (p-value)[e] | 0.245 | 0.244 |

[a] Panel EGLS estimates using period SUR weights are presented. Standard errors are in parentheses.
[b] Percentage of active population with higher education who work as Managers, Professionals, Technicians and Associate professionals up to 2010, clerical support workers have been added since 2011 onwards.
[c] Percentage of active population with higher education with any occupation different from Managers, Professionals, Technicians and Associate professionals up to 2010; since 2011 clerical support workers have been excluded.
[d] Dummy equals 0 over the period 2000-2010 and 1 over the period 2011-2016.
[e] Pesaran's cross-section dependence test. Null hypothesis: No cross section dependence in residuals.

The regression model is estimated using that newly calculated indicator of qualification (mis)match. The variable denoted *VQMISnew* (Table 2, model 1) presents the percentage of the active population with higher education with any occupation different from Managers, Professionals, Technicians and Associate professionals up to 2010. Since 2011 clerical support workers have also been excluded from the group of mismatched. The dummy

[5] In order to test the robustness of the outcome the dynamic GMM has been also applied with one lag regression variables as internal instruments. It produces similar results in terms of both signs and values of the regression coefficients. In general, the dynamic GMM developed by Arellano and Bond (1991, 278) is designed for panels with a large number of cross section units (N) over few time periods (N > T). Here, the panel dimensions are almost equal (N = 11, T = 9) therefore the GMM output is not displayed. The results are available upon request.

variable equals 0 up to 2010, and 1 afterwards (Table 2). The model also contains an interaction term *log VQMISnew*dummy* which equals 0 up to 2010 and has the same value as *log VQMIS* from then onwards. That would allow for a better evaluation of the impact of the newly adopted dynamic framework on the regression results. In the second modification (Table 2, model 2) the properly matched individuals according to the new measurement method (*log VQMnew*) have been introduced. In addition, an interaction term with the dummy variable is also defined (*log VQMnew*dummy*). The estimation method is the same as that in the previous section. That allows for the comparison of the results and ascertains the robustness of the regression output as well.

The results once again confirm that an increase of the overall stock of human capital (*log HKSTOCK*) is positively related to the real GDP per head increments. If the former grows by 1%, the latter would rise by 0.17-0.18%. Yet, the negative impact of vertical qualification mismatch remains despite the newly adopted method for measuring it. This is evident by the regression coefficient for the interaction term (*log VQMISnew*dummy*), which measures the impact of oversupply of higher education after the year 2011. The output presented in Table 2 also proves the robustness of the results discussed in the previous section.

At first glance, the addition of clerical support workers to the vertically matched graduates leads to a counter-intuitive outcome since the regression coefficient of the variable *log VQMnew* (Table 2, model 2) is below zero and statistically significant. But, the interaction with the dummy regressor gives evidence that the result might be explained by the structural change in the data. Probably, the negative slope of *log VQMnew*dummy* is affected by the growing share of employees with tertiary education holding clerical jobs after the year 2011. The results also show that a rise of the jobs down the ladder occupied by college or university graduates does not contribute to the growth successfully. Thus, the second econometric output once again provides support for the hypothesis that the rising rate of vertical qualification mismatch is always negatively associated to the income per capita changes.

In view of the theoretical hypotheses being raised in Section 1 the following explanations might be given for the negative link between qualification mismatch and economic growth. First, over-educated workers receive lower wages than their just-educated peers which exhibits a downward pressure on per capita income growth. Second, higher education graduates might possess theoretical knowledge but at the same time might lack necessary practical skills and competencies for the positions down the occupational ladder which they occupy. Yet, they are employed due to the lack of adequate labour supply. Third, overeducation might lead to lower job satisfaction which affects productivity and hence growth adversely.

From a policy perspective, the study implies that investments in human capital and the broader access to education benefit the long-run economic development. But, the attention should be drawn not only to graduation rate per se but also on the distribution of the country's human capital by educational degrees or fields of study. Higher educational attainment of the population does not go hand in hand with adequate skills which affect negatively technology adoption and firm performance at a micro-level and resource misallocation at a macro level. Improved quality of education, life-long learning and career

guidance are among the measures for mismatch reduction. In light of the study outcome, a better match between educational attainment of the labour force and the specific economic structure might solve the problem of rising qualification mismatch across the European countries and enhance their long-run prospects for growth.

## 5. Conclusion

This paper draws attention on the link between vertical qualification mismatch and the rate of growth in the long run. It utilizes the extended neoclassical model of growth in order to find empirical evidence on that relation. The regression outputs confirm the positive growth impact of the overall human capital stock and the contribution of the properly matched university graduates taking positions such as Managers, Professionals, Technicians and Associate professionals. On the other hand, the increasing percentage of people whose education is above the requirements for the job positions they hold, affect growth negatively. The inclusion of clerical support workers to the properly educated graduates leads to a negative results regarding the link between university education and growth.

Though the empirical evidence on the influence of mismatch on growth is very limited as it was pointed out in section 1, the results obtained here could find support in a number of studies focusing on the region of Central and Eastern Europe. In light of the statistical data on the extend of vertical mismatched in the Bulgarian economy in section 2, the econometric output provides support for the conclusion of Vassileva (2019) that employment has not been significantly affecting Bulgaria's economic growth since the recent global crisis. As well, Rangelova and Bilyanski (2018) consider low productivity in Bulgaria as one of the main obstacles to economic development and cohesion with the EU countries. Gerunov (2014) derives a negative and statistically insignificant relation between educational attainment and the rate of change of real GDP for a panel of countries, including those considered here. Neycheva (2010) also cannot find evidence that higher public investments in education in the new member states increase labour productivity and growth. As the current study is one of the first ones exploring the direct relationship between (mis)match and economic growth, further evidence is needed in this regard.

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Appendix 1

Descriptive Statistics of the regression variables included in the model

| Country | Statistics | log $y_t$[a] | log $y_0$ | log HKSTOCK | log $s_k$ | log (n+g+δ) | log VQMIS | log VQM |
|---|---|---|---|---|---|---|---|---|
| Bulgaria | mean | 9.00 | 8.84 | 4.41 | 3.12 | 1.75 | 3.03 | 4.30 |
| | st dev | 0.12 | 0.20 | 0.04 | 0.10 | 0.12 | 0.11 | 0.02 |
| Czech Republic | mean | 10.06 | 9.94 | 4.53 | 3.33 | 1.83 | 2.21 | 4.48 |
| | st dev | 0.08 | 0.13 | 0.02 | 0.02 | 0.04 | 0.30 | 0.04 |
| Estonia | mean | 9.81 | 9.63 | 4.49 | 3.41 | 1.81 | 3.23 | 4.23 |
| | st dev | 0.08 | 0.16 | 0.01 | 0.06 | 0.08 | 0.02 | 0.01 |
| Latvia | mean | 9.58 | 9.35 | 4.46 | 3.28 | 1.61 | 2.92 | 4.32 |
| | st dev | 0.12 | 0.21 | 0.03 | 0.06 | 0.21 | 0.02 | 0.01 |
| Lithuania | mean | 9.69 | 9.41 | 4.52 | 3.09 | 1.58 | 3.01 | 4.31 |
| | st dev | 0.15 | 0.24 | 0.03 | 0.08 | 0.13 | 0.17 | 0.05 |
| Hungary | mean | 9.99 | 9.92 | 4.45 | 3.12 | 1.92 | 2.51 | 4.44 |
| | st dev | 0.03 | 0.07 | 0.02 | 0.05 | 0.08 | 0.10 | 0.03 |
| Poland | mean | 9.77 | 9.62 | 4.50 | 3.02 | 1.79 | 2.70 | 4.37 |
| | st dev | 0.16 | 0.19 | 0.03 | 0.08 | 0.06 | 0.25 | 0.04 |
| Romania | mean | 9.19 | 8.96 | 4.30 | 3.24 | 1.50 | 2.56 | 4.41 |
| | st dev | 0.16 | 0.26 | 0.04 | 0.13 | 0.23 | 0.25 | 0.05 |
| Slovenia | mean | 10.35 | 10.26 | 4.44 | 3.17 | 1.85 | 2.23 | 4.45 |
| | st dev | 0.06 | 0.08 | 0.04 | 0.16 | 0.15 | 0.20 | 0.05 |
| Slovakia | mean | 9.79 | 9.62 | 4.53 | 3.21 | 1.86 | 2.43 | 4.41 |
| | st dev | 0.15 | 0.20 | 0.01 | 0.08 | 0.03 | 0.29 | 0.06 |
| Croatia | mean | 9.92 | 9.92 | 4.41 | 3.17 | 1.82 | 2.41 | 4.38 |
| | st dev | 0.04 | 0.04 | 0.05 | 0.07 | 0.16 | 0.40 | 0.02 |
| NMS-11 | *mean* | *9.74* | *9.59* | *4.46* | *3.20* | *1.76* | *2.66* | *4.37* |
| | *st dev* | *0.38* | *0.44* | *0.07* | *0.14* | *0.18* | *0.39* | *0.08* |
| | *stdev (% mean)* | *3.91* | *4.64* | *1.62* | *4.26* | *10.22* | *14.76* | *1.84* |

[a] The dependent variable *dlog* $y_t$ is calculated as a first difference of *logy*$_t$ which represents real Gross domestic product per unit of active population (15-74 years of age). The variables *dlog* $y_t$ *log* $y_0$, $s_k$, *VQM, VQMIS and* $n+g+\delta$ are introduced as five-year averages over the examined period 2000-2016 i.e. 2000-2004, 2001-2006, and so on.

Appendix 2

Descriptive statistics of the variables representing vertical qualification (mis)match according to the dynamic approach

| Country | Statistics | log VQMISnew | Static vs. Dynamic approach (%)[a] | log VQMnew |
|---|---|---|---|---|
| Bulgaria | mean | 2.90 | -4.25 | 4.34 |
| | st dev | 0.08 | | 0.02 |
| Czech Republic | mean | 1.98 | -10.49 | 4.51 |
| | st dev | 0.03 | | 0.01 |
| Estonia | mean | 3.13 | -3.21 | 4.27 |
| | st dev | 0.12 | | 0.03 |
| Latvia | mean | 2.77 | -5.13 | 4.35 |
| | st dev | 0.15 | | 0.03 |
| Lithuania | mean | 2.93 | -2.55 | 4.32 |
| | st dev | 0.25 | | 0.07 |
| Hungary | mean | 2.33 | -7.02 | 4.46 |
| | st dev | 0.12 | | 0.01 |
| Poland | mean | 2.55 | -5.52 | 4.40 |
| | st dev | 0.12 | | 0.01 |
| Romania | mean | 2.41 | -5.60 | 4.44 |
| | st dev | 0.08 | | 0.02 |
| Slovenia | mean | 2.15 | -3.50 | 4.47 |
| | st dev | 0.07 | | 0.02 |
| Slovakia | mean | 2.30 | -5.56 | 4.44 |
| | st dev | 0.13 | | 0.03 |
| Croatia | mean | 2.28 | -5.60 | 4.40 |
| | st dev | 0.20 | | 0.01 |
| NMS-11 | *mean* | *2.52* | *-5.16* | *4.40* |
| | *st dev* | *0.37* | | *0.08* |
| | *stdev (% mean)* | *14.81* | | *1.71* |

[a] Percentage difference between the rate of vertical mismatch according to the dynamic approach (log VQMISnew) introduced in section 4 and that rate according to the static approach (log VQMIS) applied in section 3.

ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# LEARNING ABOUT MIGRATIONS THROUGH CONTEMPORARY ART

*Since art is a world-recognized platform for the representation and interpretation of social processes, in this paper we take an original approach and use the opportunities offered by art-based research in order to analyze the development of new narratives about the migration phenomena. Particularly, we apply a selected review of the main work of several contemporary artists whose interest is strongly focused on the economic, social and political issues related to migrations. Moreover, the paper explores the possibilities and obstacles offered by art for the dissemination of related research. In this regard, we believe that our paper contributes by enhancing the important relationship between art and social phenomena, like migrations. This relation includes, at least, two shared areas: first, the understanding that art is a space for the representation of various social processes traditionally addressed by social science. For instance, although political science scientists, economists, sociologists, historians, anthropologists, geographers, etc. have extensively dedicated their work to study the migration phenomena, it is less recognized the large work of artist on migrations. Accordingly, artists are accustomed to transdisciplinary intellectual work and creativity and therefore, the discourse of art on the migrations phenomena brings a fresh perspective and is welcome. Second, one of the differences between scientific research and artistic research is that in the latter, the decisions on how to dispose the elements that participate in the research and even the protocol itself is decided previously by rationalistic hypothesis and method. However, in artistic research, a final result is not as relevant, but rather the importance of the research lies in the process itself. The process approach leads each artist sets their own rules of action and this does not have to be justified beforehand. In this sense, our aim is not to replace the scientific discourse but to rescue the artistic approach as complementary and take advantage of its seductive, emotional, creative and formative potential.*
*JEL: J12; Z11*

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**Why Learn about Migrations through Contemporary Art?**

The aim of this paper is to analyses the representation of migration phenomenon through contemporary art. It focuses on the opportunities offered by art-based research for developing new narratives about migrations. On the one hand, art is a space for the representation of social processes. The above includes the work of political scientists, economists, sociologists, historians, anthropologists, geographers, etc., on migrations, but also artists. The broad economic, political and social aspect of migrations offers a very open approach and participatory debate. For this reason, the discourse of art on migrations is welcome; in fact, artists are accustomed to transdisciplinary intellectual work and creativity. Somehow:

> "art is a place where one can think things that are not thinkable elsewhere... A good artistic problem has no end, a good solution has reverberations and good communication produces many more evocations than the information it transmits" (Camnitzer, 2012).

On the other hand, art-based research can be useful for the study of social processes. One of the differences between scientific research and artistic research is that in the later the decisions on how to dispose the elements that participate in the research and even the protocol itself is decided previously by rationalistic hypothesis and method. However, in artistic research, a final result or corroborating a hypothesis is not as relevant; but rather the importance of the research lies in the process itself. Each artist sets their own rules of action and this does not have to be justified beforehand. As Higgins states (Higgins, 1984) "each works determines its own medium and form according to its needs". Obviously, the question is not to replace the scientific discourse, but to rescue the artistic one and take advantage of its seductive, emotional, creative and formative potential. Digital artist Daito Manabe, who has an extensive scientific background, explains the division of labour between science and art:

> "The essence of science is to solve problems. My activity, on the other hand, consists of posing problems through my creations. Do I make art? I think I am somewhere in between the scientific and the artistic, but I am closer to the artistic field, yes. Because art poses problems, like philosophy. And I don't want to solve puzzles... I want to create puzzles" (El País, 2017).

Artists have working and reflection procedures different than the techno-rationalism typical of the mainstream academy. Their approach to knowledge (learning) is configured by a creative process, where the unexpected, freedom of creation, curiosity, the emotional, sensitivity, etc. are central elements of the work. Furthermore, the expression of creativity is not incompatible with the acquisition and transmission of knowledge. Creativity is connected with unexpected responses by producing novel connections using available information (Cropley and Cropley, 2008).

This means that creativity is an essential element, both for the identification of problems and for the search for solutions, so that the acquisition of content and creative experiences should not conflict. In fact, it is the opposite, there is a symbiotic relationship between knowledge and creativity: knowledge is the fundamental raw material for the development

of creativity, and in turn, creativity is present in the advancement of knowledge. In that way, art is the area of development of creativity par excellence and can be a useful tool for reflection on social phenomena (de Arriba et al., 2019).

Beyond its role in developing a deeper understanding and complex creative thinking, art is especially relevant for the kind of contribution to experience and knowledge that only art can offer. This perspective conceives art as a particular and valuable experience in the sense of Dewey (1934). From this perspective, art is capable of creating forms that allow values to be expressed as visual metaphors, activates our sensitivity and is capable of drawing attention to everyday aspects that we overlook, that is, it has the capacity to produce emotional impact (Eisner, 1972).

## Migrations, What Are We Talking About?

The migration phenomenon is linked to the evolution of human history. Either its causes and consequences have been broadly studied, from general and massive migrations to specific flows of migrants steaming from particular contexts. In any case, migration has great impacts on the country of origin and the host country in terms of workforce, economic flows, development, cultural and societal and political impacts. For instance, a great proportion of the migration phenomenon nowadays is performed by young adults and people in working-age having children and initiative. In that case, emigration in home countries subtract human capital and the absence of a young generation may steam as a very serious problem in many regions of the world.

In 2019, the estimated stock of international migrants (understood as the total number of people residing in a country different than their country of birth) was around 271 million representing a 3.5% of the total world population (UNHCR, 2019; UNESCO 2018). The proportion of the international stock of migrants in the world population is only slightly higher than the estimated during past decades, either in absolute terms or as a proportion number keep constantly increasing (see Table 1).

Table 1

Evolution of the stock of migrants in the world

| Year | Stock of migrants in the world (in millions) | % world population |
|---|---|---|
| 2019 | 271 | 3.5 |
| 2017 | 258 | 3.4 |
| 2015 | 244 | 3.3 |
| 2000 | 173 | 2.8 |
| 1980 | 102 | 2.3 |

*Source: International Organization for Migration (2019).*

Furthermore, the International Organization for Migration (OIM, 2019) infers that from these 271 million migrants, around 125 are women, 36 million are children and 150 are migrant workers. From the total, approximately 25 million are estimated to be refugees and around 5 million are international students. According to the OIM the phenomenon is

distributed by 30% in Asia, 30% in Europe, 26% in America, 10% within Africa and a 3% in the rest of the world.

Less clear are the statistics regarding migration flows (migrants entering and exiting a certain country measured in a year) which has been placed as very difficult to measure and describe, due to the lack of comparable data in many countries and regions in the world. Actually, formal migration data flows are generally available only for few countries and largely limited to the OCDE countries. In there, over five million people were estimated to enter this group of countries (OCDE, 2019). In any case, Abel and Sander (2014), in an effort to quantify and approximate a global number, state around 35 to 40 million people migrating every 5 years in the planet.

As an example of the global importance of this phenomenon, the 2030 Agenda for Sustainable Development, includes several and significant references to the phenomenon. Specifically, around two-thirds of the Sustainable Development Goals (SDG) contain aims and or indicators which are directly or indirectly related to migration specificities. For instance, target 10.7 calls to "facilitate orderly, safe regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies". Other examples are targets 8.7 and 8.8 on labour migration, 5.2 and 8.8 about human trafficking or 4.b on student mobility. In any case, as pointed by Foresti et al. (2018) migration is a transversal theme across the SDG targets and therefore central to effectively implement the Agenda.

In front of the importance of the phenomenon worldwide, there is an urgent need for quality data on migration to create and inform sustainable development and migration policies (IOM, 2017) as well as studies dealing with the different dimensions affected.

## Migratory Discourse in Contemporary Art

The migration issue is one of the current phenomena that has received a lot of attention from contemporary artists around the world. Many works have their focus on specific aspects as identity, longing, marginalization, precariousness, or more recently, the drama of refugees trying to arrive to Europe. In this article, we present some examples.

The Migration Museum of London is an art centre dedicated exclusively to migration issues, specifically to explore "the many ways that the movement of people to and from Britain across the ages has shaped who we are exploring the central role that migration has played in making us who we are today".[4] This museum develops multiple activities, including online exhibitions, publications, educational resources, collaborations with universities, a blog, etc. An example of his exhibitions is "100 Images of Migration". The collection "100 Images of Migration" is made up of images sent by professional and amateur photographers that reflect the life associated with the migration phenomenon in

[4] www.migrationmuseum.org

Britain today.[5] The exhibition allows to cross the barrier of the stereotyped treatment made by the media and allows the viewer to know a little better the life of immigrants (image 1).

Image 1

100 Images of Migration

*Source: www.migrationmuseum.org/exhibition/100-images-of-migration*

Banksy's work is wide and varied, usually specified in graffiti format. His work includes some about economic and social issues, always treated from an unpleasant and disenchanted perspective with the system.[6] During his trip to the jungle refugee camp of Calais, Banksy covered several walls in the French port with graffiti related to the refugee crisis. Image 2 shows his works titled "The Son of a Migrant from Syria". It represents Steve Jobs, founder of Apple and son of a Syrian migrant to the United States, as a travelling migrant.

Vik Muniz's work is also especially impressive. In 2015, on the occasion of the 56th Venice Biennale, he presented "Lampedusa", a floating installation made of newspaper articles about migrant deaths in the Mediterranean sea[7] (image 3). Contextualized in the naval environment of Venice, the paper boat contrasts with the Venetian Vaporetto, yachts and gondolas designed for the enjoyment of tourists.

[5] www.migrationmuseum.org/exhibition/100-images-of-migration
[6] www.banksy.co.uk
[7] https://www.theguardian.com/artanddesign/jonathanjonesblog/2015/apr/21/lampedusa-migration-deaths-sea-venice-biennale

Image 2

The Son of a Migrant from Syria, by Banksy

*Source: https://en.wikipedia.org/wiki/The_Son_of_a_Migrant_from_Syria*

Image 3

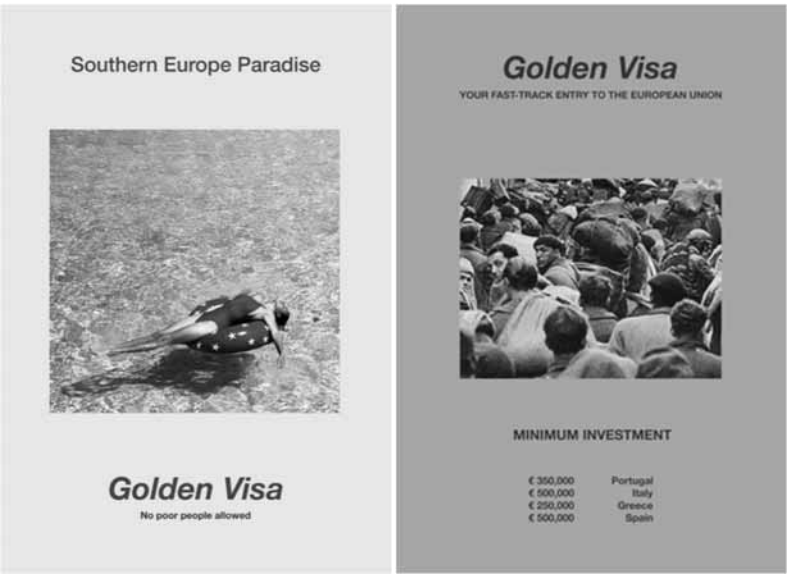
Lampedusa, by Vik Muniz


*Source: http://biennaledivenezia arte.blogspot.com/2015/04/vik-muniz-lampedusa-at-56th-venice.html*

Rogelio López Cuenca is one of the most incisive Spanish artists. He has an extensive and varied work, although he is especially interested in topics such as the use of language, the media, the construction of identities or cultural criticism. His work "Golden Visa", carried out in collaboration with Elo Vega, is an installation made in the Madrid subway as advertising space. According to the author, "the intervention presents different levels of reading, and shows the contradictions that characterize migration and its hegemonic media representation, from the criticism of stereotypes related to advertising, the media and banking systems".[8] Images 4 and 5 represent two examples of the installation, whereas a publicity campaign López Cuenca ironizes about the obstacles that poor immigrants face in entering European countries such as Spain, in the face of the policy of granting visas and even nationality to rich immigrants.

Images 4 and 5

Golden Visa, by R. López Cuenca




*Source: www.lopezcuenca.com/golden-visa*

Suzanne Lacy is an American visual artist and activist who works with different formats, especially performances. Much of his work reflects the strong social commitment and includes large-scale public performances involving other artists and social groups. Her work *Alterations*[9] is an installation created in collaboration with Susanne Cockrell, and Britta Kathmeyer for the exhibition *Old Glory, New Story: Re-flagging the 21st Century* at Capp Street Projects in San Francisco in 1994 (image 6). It is an ironic work, an installation

[8] www.lopezcuenca.com/golden-visa
[9] www.suzannelacy.com/early-works#/alterations-1994

populated on a daily basis by live women who sat amidst huge red, white and blue piles of used clothes. The work evokes the creation of patriotic icons, such as the United States flag, made by foreigners, in this case, immigrant women who work in the textile sector, while receiving low wages and supporting anti-immigration attitudes.

Image 6

Alterations, by Suzanne Lacy

*Source: www.suzannelacy.com/early-works#/alterations-1994*

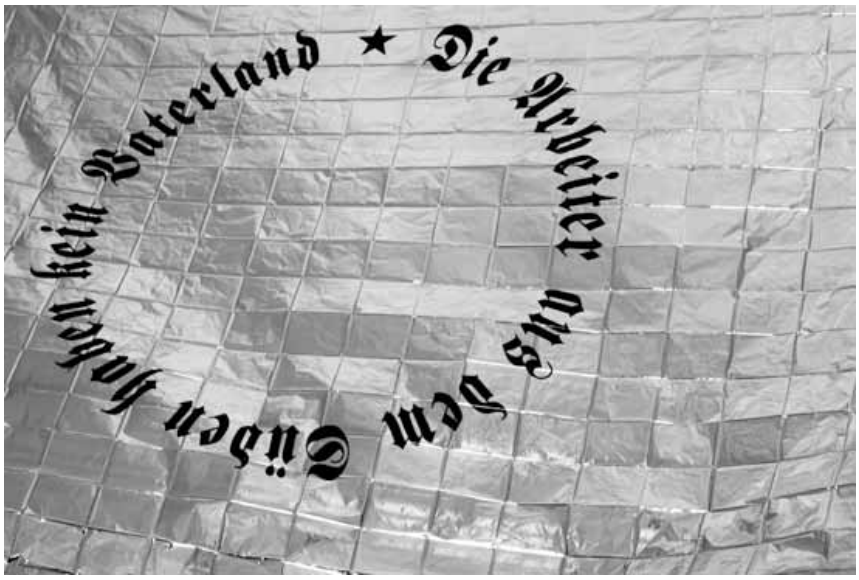
Alan Carrasco is a visual artist and editor of the arts criticism magazine Situations. The topics of greatest interest in his work are postcolonial processes, territory, production and work relations, and inequality in contemporary society. His work "Kein Vaterland"[10] (Not a fatherland) is inspired by the famous phrase of the Communist Manifesto of Marx and Engels, *Die Arbeiter haben kein Vaterland* (The workers have no fatherland).

As an act of protest against the European Union migration policy, Carrasco has slightly modified the phrase to make it *Die Arbeiter aus dem Süden haben kein Vaterland* (The workers from the South have no fatherland). The new phrase has been drawn on a thermal survival blanket, in a circular shape, as the design of the European flag. The installation is completed with ten tiny images of European citizens demonstrating against the right of asylum of the refugees.

[10] http://alancarrasco.com/sp/portfolio/kein-vaterland

Image 7

Kein Vaterland, by Alan Carrasco




*Source: http://alancarrasco.com/sp/portfolio/kein-vaterland*

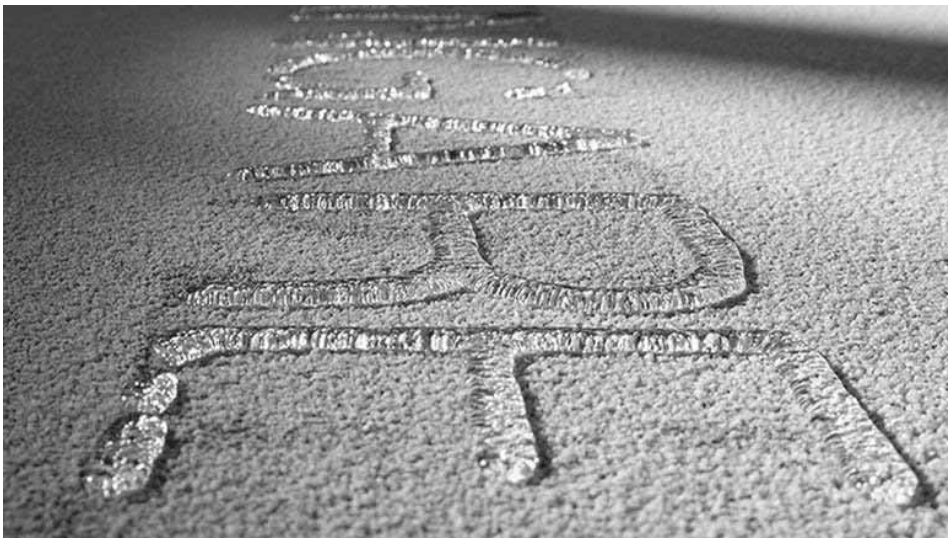
Doris Salcedo's work entitled "Palimpsesto" was produced at the Palacio de Cristal in Madrid in 2017/2018 and consisted of inscribing the names of the thousands of people who died in the Mediterranean Sea during their migratory trips.[11] The difficult search for the names of those migrants and their subsequent visibility through their registration represents, in the artist's words, a poetic act of paying tribute to them. The installation was completed by making each of the registered names visible by flooding with water each one of the letters.

Núria Güell is a Spanish artist whose original work reflects a critical position with contemporary capitalist society and its most negative social manifestations. "Too Much Melanin" is her project for the Götenborg Biennale 2013. The work consisted of proposing to the Biennial to hire Maria to play hide and seek with the Biennale's visitors.[12] Maria was a Kosovo political refugee who was living illegally in Sweden for nine years and had to live in hiding while awaiting political asylum that wan not arriving.

[11] www.youtube.com/watch?v=tt1ieb7v5DY
[12] vimeo.com/87579085

Image 8

Palimpsesto, by Doris Salcedo



*Source: www.museoreinasofia.es/exposiciones/doris-salcedo*

Image 9

Too Much Melanin, by Núria Güell

*Source: www.acvic.org/es/video-documentos/1498-extralocales-nuria-gueell*

Francis Alÿs's work "Don't Cross the Bridge Before You Get to the River", is a collaborative project with Rafael Ortega, Julien Devaux, Felix Blume, Ivan Boccara, Abbas Benhim, Fundación Montenmedio Arte and the kids of Tangier and Tarifa.[13] On August 12, 2008, Alÿs proposed to carry out a collective action in two specific places in the Strait of Gibraltar, one in Morocco and the other in Spain. At these two points he invited various boys and girls to make a line with little boats made with shoe soles, making an attempt of the poetic encounter between the two extremes. Those two lines of boats did not meet physically, but poetically (image 10).

Image 10

Don't Cross the Bridge Before You Get to the River, by Francis Alÿs


*Source: https://francisalys.com/dont-cross-the-bridge-before-you-get-to-the-river/*

Virginia San Frantello and Ronald Rael, in collaboration with the Chopeke de Juárez collective, installed a rocker on July 28, 2019, crossing the fence that separates the border between the US and Mexico, exactly in Anapra (Ciudad Juárez) and Sunland Park (El Paso).[14] This action, called "Teeter Totter Wall", involves altering the intrinsic idea of separation of a device (the fence) to turn that same device into support for the union (although in an ephemeral way) of the inhabitants of the US and Mexico, through playing. At the same time, as the authors state, this action also wanted to convey the idea that any decision made in one country affects the other, that they maintain an unbalanced relationship.

[13] https://francisalys.com/dont-cross-the-bridge-before-you-get-to-the-river
[14] www.rael-sanfratello.com/?p=1617

Image 11

Teeter Totter Wall, by Rael San Fratello

*Source: https://news.berkeley.edu/2019/10/08/teeter-totters-as-activism-ronald-rael/*

**Conclusions**

This paper studies the representation of migration phenomenon through contemporary art. It relies on the opportunities offered by art-based research for developing new narratives about migrations. Art is a good place for the representation of the social processes. Many political scientists, economists, sociologists, historians, anthropologists, geographers, etc., work on migrations, and also artists. The political and social aspect of migrations offers a very open approach and participatory debate. For this reason, the discourse of art on the migrations is welcome. Artists are accustomed to transdisciplinary intellectual work and creativity.

One of the differences between scientific research and artistic research is that in the latter, the decisions on how to dispose of the elements that participate in the research and even the protocol itself is decided previously by rationalistic hypothesis and method. However, in artistic research, a final result or corroborating a hypothesis is not as relevant, but rather the importance of the research lies in the process itself. Each artist sets their own rules of action and this does not have to be justified beforehand. Obviously, the question is not to replace the scientific discourse, but to rescue the artistic one and take advantage of its seductive, emotional, creative and formative potential.

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ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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# INFORMAL ECONOMIC NETWORKS IN THE SERVICES SECTOR

*This article presents the results of a study of the organisation of informal economic networks and their role in the modern economy. The main characteristics of the network economy are discussed, and an analysis of domestic and foreign approaches to concepts that reveal the content of the informal economic network is conducted. The typologies of network structures are considered, and the classification of types of informal economic networks is presented. Models of informal networks are associated with theories and concepts of the development of economy and society. Management tools for the creation and development of informal economic networks in the services sector are defined and systematised. Disclosed and generalised approaches to the content of informal economic networks of the service sector. Key concepts are disclosed and an idea of the results of their research is given, which can be used in further developments on this scientific problem. The results of this study may be useful to specialists in the field of management and economics, dealing with problems of improving efficiency in modern conditions when studying theoretical and practical issues of management optimisation.*
*JEL: L80; M20; M29*

Network forms of the organisation of the economic activity of subjects have become the subject of a large number of theoretical works and of the analysis of their application in practice. With its cross-disciplinary character, the network approach is widely used in theoretical-methodical justifications of the processes of the organisation of branch markets, sectors of the economy, corporation and intercompany and boundaries subject interaction as

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a means of creating global and local structures of processing and transferring the information and the like (Baggio, Sheresheva, 2014; Bramoullé, Galeotti, Rogers, 2016).

The set of various network forms comprises the organisational forms of the open (formal) and hidden (informal) sectors of economy, which reflect the institutional conditions and the nature of state social and economic policies, which are a condition of business.

In research into the network organisation of the informal sector of the economy by domestic and foreign scientists, a number of questions of theoretical and methodical content are typically analysed. Such research is not yet fully developed, yet the topics are of particular interest: the prerequisites and means of formation of networks, their types, the nature of the interaction of their participants, their efficiency, and so forth. This subject is relevant due to insufficient research on the network organisation of the informal sector of the economy in Russia and a lack of complex analysis of its essence and functioning, which complicates the objectivity of the assessment of its state and a rationale for solutions to problems.

This article focuses on determining the processes of creation and the defining features of the organisation and functioning of informal economic networks in the services sector in Russia; the economic relations that are the cornerstone of their formation; and the role of such networks in the services sector.

Achieving this goal requires completing the following tasks:

1. Investigating the main characteristics of the network economy;
2. Conducting an analysis of domestic and foreign approaches to the concepts of ‘informal economy’ and ‘informal economic network’;
3. Considering the typology of network structures;
4. Studying communication in models of informal networks using theories and concepts of the development of economy and society; and
5. Defining and systematising instruments for the creation and development of informal economic networks in the services sector.

## Theoretical Framework and Methods

In the course of the research, the work of domestic and foreign scientists on the economy (including the informal economy) were referred to, and the organisation and management of activity of the managing subjects in the services sector in relation to the issues of the integration, formation, and functioning of networks were investigated.

The multidimensional nature of the maintenance of informal economic networks demands the use of a corresponding variety of research methods (Goyal, 2015).

The main stages of the process of studying and analysing informal economic networks in the services sector in Russia are presented in Table 1.

Table 1

The Main Stages of the Process of Studying Informal Economic Networks in the Services Sector in Russia

| Stage | Content of the Stage |
|---|---|
| Justification of the concept | Development of the concept of studying informal economic networks in the services sector in Russia. |
| Statement of the research problem | Description of the problem, the expediency of its research, and the methods of its methods of allowing it'. |
| Determination of the purposes and research problems | Formulation of the purpose and tasks and the determination of the results of the research. |
| Action plan | Scheduling the research (the development of activities', terms, contractors, means, etc.). |
| Collection of information on the research object | Determination of sources. Collection and systematisation of available information on the condition of informal economic networks in the service sector. |
| Analysis of collected information | The conducting of analysis of the information and comparing it with previous studies. |
| Forecast of the development of the situation | Identification of regularities and trends; developing a forecast of prospective developments of the situation. |
| Results of the research | Processing of the results, compiling reports, and conclusions and recommendations'. |

*Source: Author-Developed.*

The organisation of the regular monitoring of the state and the regularities of the dynamics of informal economic networks in the service industry assumes access to analytical materials that are not used in the official systems of decision-making. Informal economic networks in the service sector have to be explained as phenomena that have been formed as a result of changing political, scientific, technological, economic, and social conditions. Their potential and opportunities should be investigated for the theoretical development of corresponding directions in economic science and for the implementation of these.

The information base for the research includes the relevant legislation of the Russian Federation, official documents, data from entities that produce statistics, monographs, studies published in periodicals, the proceedings of scientific conferences, and information from the Internet.

## Literature Review

Networked forms of the organisations (both open and hidden) have existed for a long time. They reflect a method of interaction of individuals, groups, and communities which form structures and draw boundaries, isolating and allocating the interests of the participants of the integrated formations in public space.

Analysis of the literature allows the network organisation of the activity of people to be allocated to two existing approaches: social, scientific and technical. In the social approach, the emphasis on the maintenance of networks is on methods of coherence and the

organisation of the interaction of individuals and social groups in society. Hence, researchers (for example, Heckethorn and others) note the existence in Europe, on the Neighbour and the Middle East, in Africa, India, China and other countries at the beginning of a new era of Judeo-pagan, Gnostic and Manichean sects, Templars, assassins, and the like (Heckethorn, 2011). It is possible to refer Masonic societies, whose participants today number four million people (Hodapp, 2013; United Grand Lodge of England, n.d.) worldwide, to a number of official and latent network forms of organisation that have existed since the Middle Ages. These societies have extensive networks of various forms of localisation: lodge, grand lodge, supreme councils, chapters, Areopaguses, consistories, federations, and confederations. Their hierarchical structure, centralised management, and activity is directed at the achievement of political, financial and economic, and religious goals in various countries of the world.

In 1981, Breten introduced for scientific use the term 'network society', considering it a model for the interaction of a person with society from the perspective of the theory and experience of sociology and social psychology (Bråten, 1981).

Researchers adhering to the scientific and technical approach to network organisation assume that the results of scientific and technical developments promote the creation of the material and physical bases of network formations which lead to the forming of networks of railroads, cable, telephony, electricity, and the like, and to the relevant economic networks that unite economic entities in industry, infrastructure, and in other communities. Furthermore, from the middle of the 20$^{th}$ century, informatisation, computers, the Internet, and multimedia technologies have acted as drivers of a setisation of all areas of society and economy. This has allowed researchers (such as Jan van Dijk, M. Castells Martin J., and others) to analyse network society using a technology paradigm that considers the interactions of the basic elements, including social networks, informatisation, computerisation, and communications (van Dijk, 2001; Castells, 2012; Martin, 1978). At the same time, networks are presented in the form of the particular structures that cover all levels of the elements of society (personal, group, collective, and public) united by electronic communications.

The work of a number of authors (Kevin Kelly and others) has opened an approach to the network economy as one of the types (information economy, electronic, digital, etc.) that, over time, may replace the industrial economy (Kelly, 1997). Features of the network organisation of the economy include changes in production methods, management, and in the relations between participants.

As a result of its expansion, the continuing process of setisation now covers all new industries, spheres, objects, and types of activity. Hence, households and families were traditionally analysed as the official social and economic cells of society in which three principles of activity are inherent: managing, redistribution (restriction), and reciprocity (Polanyi, 2014). It was considered that they are not focused on profit-earning and are not part of a market competitive mechanism. However, the network approach to the organisation of households and networks allows the revealing of the availability of internal and external networks that simultaneously have official status and include hidden activities. It is within similar networks that the social and economic issues connected with reproduction, the development of human capital, the requirements of satisfaction, and the

like are resolved. Households and families act as the centre of concentration of functional networks (for example, educational, professional, leisure, etc.) in which there is creation and distribution of benefits and means on a commercial basis in combination with the non-market character, the "retsiproknykh", of networks founded on relationships or personal acquaintance. If the formal organisation and activity of households and families is widely reflected in the scientific literature and statistical sources, then their network form and informal organisation demands further research.

This particular interest raises questions of the interaction of formal and informal networks which demand in-depth examination. Official network organisations (e.g., retail, scientific, and other chain stores) often perform hidden activities, forming 'shadow' structures. The activity of these The activities of these structures can be both criminal in nature and not related to criminal acts. Recent studies have shown that hidden informal formations manifest themselves in formally open networks. Thus, studying the special scientific network GRAND shows that groups of participants have greater access to research finance (grants) and to internal information that allows them to undertake a greater number of projects. At the same time as the elements of the organisation of networks are scientifically researched in terms of structural possibilities, digital media and entrepreneurship are also considered (Barry Wellman, Dimitrova, Hayat, Mo, Beverly Wellman, 2016).

There is a need to study the reasons for the emergence of such hybrid network forms and to provide an explanation of their nature. In particular, why do formal subjects of the economy move a part of their activity to the shadow sector without fear of expenses and sanctions? Why do organisations function in an intermediate zone between registered and unregistered economies? Does the availability of shadow networks for the open organisation damage its legitimacy and reputation and influence the level of mutual trust between partners? It is obvious that these questions demand comparative statistical analysis of the advantages and efficiency of functioning in open, hidden, and hybrid networks.

An alternative explanation for the emergence of informal economic networks as unique and independent organisational structures is required. It is necessary to demonstrate and explain their considerable variety and their capability of taking various forms. If standard formal organisations are considered slow and passive in the face of change, then informal economic networks have greater flexibility and adaptability in relation to changing environmental conditions. They are capable of providing quicker and more flexible access to inside information, technologies, and knowledge and of bringing these into the legal sector using commercial principles and relying on the principle of reciprocity.

Open economic networks do not violate the provisions of traditional economic theory which operates with such concepts as balance, usefulness, rationality, expenses, price, and so forth. The lack of accounting for a network approach in existing economic theories does not entail a contradiction between them (Gräbner, Heinrich, Kudic, 2017). However, informal economic networks obviously or indirectly break the balance (or promote the violation) of the markets or rationality of the behaviour of economic agents. This circumstance demands the undertaking of further research.

The problem of communication regarding the state of the economy, the level of living of the population, their employment, and state social and economic policy in relation to the

nature of the development of informal economic networks has not been sufficiently studied. In the modern conditions of Russia, the informal network economy is primarily identified with crime and criminal positions, though the author of the term 'informal economy', Hart, meant by it a method of self-employment of various categories of the population (Hart, 1987). This concept has been significantly extended and an increasing number of researchers understand it as the field of activity of economic agents who do not answer to established institutional regulations and are not connected with state regulation (Feige, 1990).

The state attempts to counteract the development of shadow activity and the creation of informal economic networks using local non-systemic measures and methods intended for individual economic entities; however, this does not deliver the necessary results. At the same time, at the theoretical-methodological level, in the area of rights, and in actual practice, the conceptual category, the precepts of law, the methods of research and accounting, methods of evaluation, and other aspects that reveal the essence of informal networks, their features, and their role and influence on the service industry and on the national economy have not yet been developed.

Thus, the range of scientific works analysed on the subject of study is characterised by the availability of fundamental and applied works reflecting a single questions of the perspective considered in this article. What is revealed thereby is the lack of theoretical representation and practical research on informal economic networks in the service sector that apply scientific justification and complex tools.

The arguments adduced update the availability and the objective nature of scientific and practical problems in the field of informal economic networks that require further theoretical research and applied development.

The novelty of this research is connected with the theoretical-methodical justification of a paradigm for informal economic networks in the service sector on the basis of disclosing their content, reasons for and motives of education, identifying the features of their functioning, defining the determinants of their development, and their use in reproduction processes. This method approaches the concept of informal economic networks from interdisciplinary positions in social and economic space. Formations of the new integrative setisated area of economic knowledge correspond to a modern, post-industrial method of public reproduction.

## Network Forms of the Organisation of Economic Activity

Networks as organisational forms of the interaction of economic actors became an effective method for the realisation of individual interests in order to achieve agreed targets on the basis of the complex use of the potential for cooperation and job specialisation, integration, synergy, and the more complete embodiment of creative opportunities of a person (Bezrukova, Morkovina, Kryuchkov, 2011, p. 68). In this regard, a number of researchers connect networks with human behavior (Jackson, 2014).

Regularities and features of the formation, development, and transformation of networks became an object of research with the implementation of activities for the development of programmes and projects of a social and economic character (Bolychev, Mikhaylov, 2014, p. 42), the cluster strategy of Russia (Erznkian, Agafonov, 2011, p. 39), and economic vulnerabilities in a number of countries (Castagna, Chentouf, Ernst, 2017).

According to the conventional approach, the network economy is introduced as a form of consolidation of the traditional economy with information resources and technologies (Bugorsky, 2008). At the same time, the connection of the economy and the Internet – technologies with networks are capable of increasing the cost of business (Cheng, 2013). In our opinion, the 'traditional character' of the network economy includes the nature of the relations, methods of housekeeping, and features of management at all stages of reproductive changes (production, distribution, exchange, and consumption). Taking into account a research subject multidimensionality, the network economy is further understood as economic activity aimed at providing a living for people on the basis of the network form of its organisation.

The primary link of the organisation of the network economy is an economic network in the form of a set of subjects who are business contacts and who interact among themselves on the basis of a contract for the satisfaction of requirements by means of production, the implementation of work and services, and the consolidation of material and non-material resources, and who are conditionally isolated from the external environment and realise the aligned interests and purposes of the participants.

Economic activity on the basis of networks differs in terms of the multifunctionality of the behaviour of subjects in the modern changeable market and a multidimensionality of the directions of their activity that promotes an increase in the stability of the network economy as a whole.

The differences between a network economy and a 'pre-network' form of its organisation is shown in Table 2.

In the 'pre-network' economy (regardless of its character – industrial or post-industrial), the enterprise (the legal person) as the formal organisation, the divisions of which are in hierarchical dependence, acts as the main subject.

Subjects in the network economy are various types of legal and natural persons or a combination of these. They can have different forms of ownership, be commercial or non-profit organisations, and act individually or represent an association.

The network, as the primary link of a network form of organisation, can either be hierarchical (with vertical communication) or non-hierarchical, with the latter primarily featuring horizontal business interactions between participants. At the same time, the form of such organisations is defined by the participants of network, which allows them to be more adaptive to environmental conditions. Research shows that the weighed network approach leads to the creation of chains of value in open economies in various countries, allowing the attaining of benefits and competitive advantages (Amador, Cabral, Mastrandrea, Ruzzenenti, 2018).

Table 2
Comparative Characteristics 'Pre- Network' and the Network Organisation of an Economy

| Name of Characteristic | 'Pre-network' Organisation of Economy | Network Organisation of an Economy |
|---|---|---|
| Means of economic subjects | Enterprise (legal entity) | Variety of subjects |
| Orientation of the activity of an economic subject | Produce more products more cheaply (using economies of scale) | Lower expenses, provided necessary values of growth rate and a share of the market |
| Direction for a solution to problems | Use of traditional means | Search for new ways to develop the organisation |
| Role of value of goods (service) | The value of goods increases to its limit | The value of goods increases in relation to the plurality of its types |
| Value of constant expenses of activity | High constant expenses | Rather low value |
| Activity implementation speed | Rather low | High |
| Result achievement speed | Rather low | High |
| Features of the attitude of participants towards result | Rather low; reflects the motivation of certain workers | High; provided with a network of interested participants |
| Organisational procedure for a solution to questions | The methods slowing decision-making are mainly used formally (or bureaucratically) | Informal procedures that accelerate decision-making are used |
| Relations with intermediaries | Formalised, which complicates relations with them | Generally, informal procedures are used |
| Role of innovations | Primary distribution of innovations in the form of copying them | Depreciation of copied innovations. Growth of original, unique solutions |
| Feature of the relations and communication between partners | Low mobility demands conventional attitudes and communications | High mobility as a result of informal relations and communications |

*Source: Author-Developed.*

**Informal Economic Networks**

The modern Russian and world reality features high rates of emergence of all forms of new, informal networks in organisations. These occur in various industries and involve various types of economic activity, including the services sector.

Systematisation and the analysis of domestic and foreign approaches to the concept of the informal economy and the generalisation of theoretical-methodological and methodical results of research conducted in this area testify to a multidimensionality of its interpretation ('shadow', 'gray', 'black', 'underground', etc.) (Barsukova, 2004). In some studies, informal networks are understood as 'distorted', unethical, illegal, and criminal networks which exist to advance the defined purposes of specific group (Osifo, 2018).

Furthermore, the informal economy in the field of services is understood as economic activity in which subjects do not observe formal (official) rules; its indicators are not considered in official statistics and its participants violate the conditions of obligatory payments (including tax).

The informal economy in the services sector represents a complete system which has a complex structure which is conditionally isolated in external space. Subjects of the informal economy are enterprises of different legal form, households, natural persons and their combination, in the form of associations and groups. Spheres of application of the activity of these subjects include the markets (work, goods, and services), industries, sectors, and various types of economic activity; exchanges (intercompany and intercorporate; interfamily and intrafamily; and interpersonal and intergroup, etc.); and production, and the like.

The economic subject can be classified as informal economic network by taking into account a number of the following criteria:

- the informal manner of its creation;
- the implementation at least one informal type of activity;
- the existence of specific purposes and rules of functioning;
- the use of informal ways of creating (receiving) economic values (goods) and/or methods of their promotion to consumers;
- the obtaining economic benefits from the result of informal activities, which implies the existence of appropriate methods for its appropriation.

Informal economic networks are created purposefully by taking into account the needs of participants, and the existence of their resources and means of communication. A definition of the role of each participant in the network structure is required to establish the coordination of interaction between them.

The existence of informal economic networks in a state indicates the existence of systemic social and economic problems. First, in the state economic policy pursued, there are zones of insufficient balance of interests between the state, society, and business; undeveloped institutes complicate the implementation of the motives and interests of the activities of a certain segment of legal entities and individuals. Second, in society, reserves of resources are insufficiently involved in the formal process of reproduction.

Third, negative characteristics of the informal sector, which are presented in the form of obstacles to functioning of the ‘normal economy’, are represented as unproductive and are subject to elimination. Objective research on the reasons for the formation of the informal sector, which serves as a status indicator of the ‘official’ economy and can act as testing ground for any testing of innovations, are necessary.

It should be noted that research conducted in the various countries shows the existence of a large number of factors in the open economy that create the basis for leaving subjects in the shadow sector of economic activity. Among these can be noted general discrimination in the labour market (Neumark, 2018), ethnic discrimination of a particular set of workers

(Blommaert, Coenders, van Tubergen, 2014), problems with compensating immigrants (Bartolucci, 2014), gender differences in work and payment (Dittrich, Knabe, Leipold, 2012), and questions of unemployment and part-time employment (Nunley, Pugh, Romero, Seals, 2016) among others.

The economic network in the field of services can be formal, informal, or extra-formal. The formal economic network in the field of services is created on the basis of legalised, ordered, and documented requirements and conditions in the form of the norms, standards, organisation, rules, contracts, and the like, considering the relevant purposes, powers, rules, statutes, and so forth. In the legal basis, the lateral structure reflects the functional nature of the division of labour of the participants in such a network, and the vertical characterises the hierarchy of power and the relation of subordination in decision-making.

An informal network can be created in a formal network (or its organisations), and out of its borders as independent formations.

The informal network created in a formal network can perform a positive function (supporting or expanding a range of activities of the official structure). It is also capable of playing a negative, antagonistic role, for example, in the form of confrontation with the purposes of the activity of the official organisation.

The extra-formal network in the field of services acts as a kind of informal organisation created in order to provide a solution to tasks by using ways that are other than officially directed. The basic function of such a network is the orientation of activities to achieve the goals of the formal network.

An informal economic network in the field of services is created purposefully or spontaneously on the basis of the voluntary interpersonal interaction of people having similar motives and interests jointly solving similar problems. This network of similarity in many respects acts as a function of the existing social and economic situation. In it, individual projects to ensure the viability of economic subjects based on mutual interest in one another and implemented in the form of collective cooperation are created and implemented. People create informal networks or join their participants for the purpose of obtaining material benefits, access to resources, satisfying a sense of belonging, seeking mutual help and mutual protection. However, in this network, the requirement of legislative, normative, and legal documents for its organisation are substituted by expediency and aspiration to achievement of the desired result.

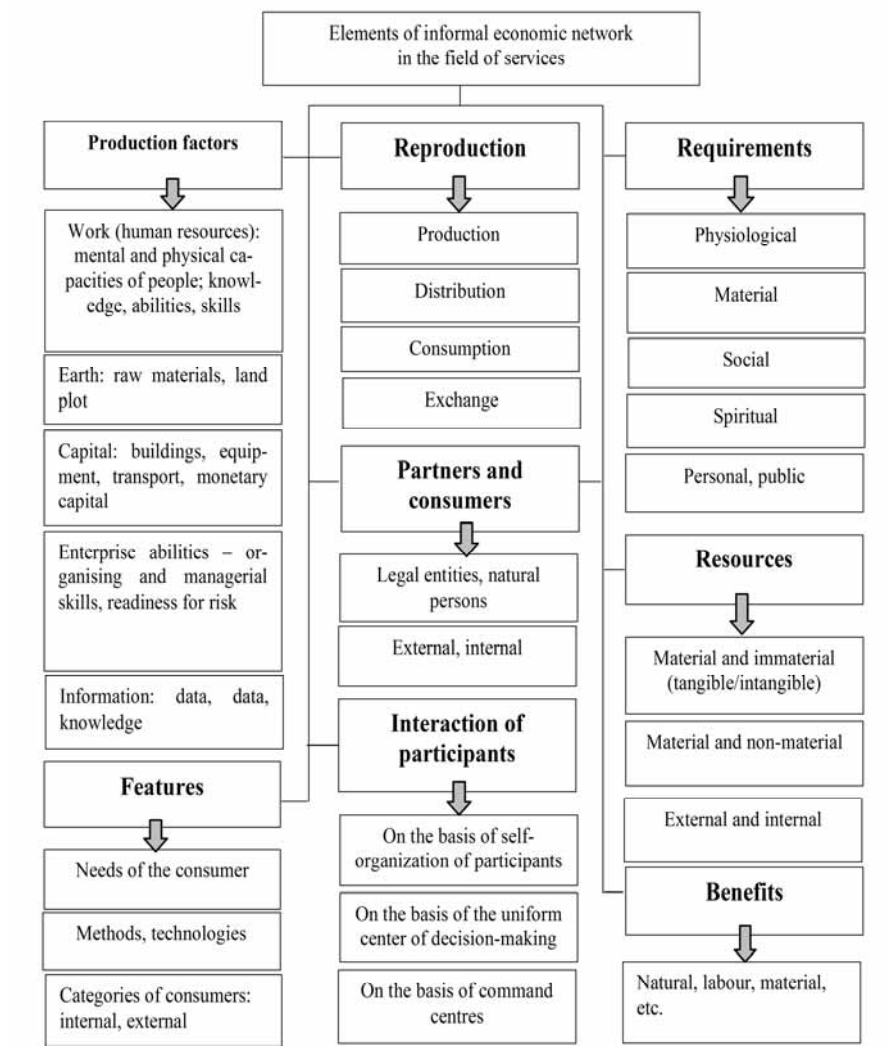
Participants in informal networks independently set norms, rules, standards of activity, hierarchies, features of decision-making, control mechanisms, and so forth. The network interaction of economic subjects allows them to perform works which it would be impossible or unprofitable to undertake using other forms of the organisation; obtain economy at an activity scale; decrease the transactional costs of obtaining information and the transfer of knowledge and technologies, and the implementation of coordination and control. It should be noted that the benefits to subjects of participating in an economic network are not distributed evenly between all of them. Similarly, benefit, getting an economic form of excess profit, can have two components: a current (short-term) result and a long-term strategic character.

The current (short-term) result of the participation of subjects in an economic network is defined by the possibility of them receiving additional short-term profit for each commercial operation.

The long-term strategic result is based on the favorable conditions of the synergistic effect and the possibility of maintaining competitive positions in the market for the future.

Figure 1

Informal Economic Network in the Field of Services




*Source: Author-Developed.*

The informal economic network in the field of services includes a set of interchangeable elements relating to the localised sphere of activity and the rendering of services in a certain direction (Figure 1).

The architecture of a network depends on the presence of three main groups of factors of both a non-economic and an economic nature: environmental conditions that determine the choice of an economic entity as concerns participation (or non-participation) in the informal economic network; the nature of the social relations between network members; and the management mechanism and resource allocation.

In many respects, the architecture depends on the scale, sustainability, and the degree of 'informality' (partial, complete, and so on).

This affects the behaviour and result of the economic actions of the subjects, which, in turn, affect the structure of the informal network organisation.

The mechanism for managing and allocating resources is the ability to make decisions based on the principle of action (for example, the presence or absence of a single centre, decision making, the distribution of income, and the like.

In an informal economic network, a set of organisational and formative factors should be distinguished, thanks to which it obtains the necessary data and focuses on the final result of the activity: administrative and regulatory, technological, economic, logical, organisational, behavioural, and psychological.

Administrative and regulatory factors make it possible to determine the state of affairs in the hierarchy, the functions, powers, responsibilities, and methods of reporting and control. These demonstrate the methods of influence and impact on the network participants and on the nature of their relationship.

Technological factors are associated with technology and the nature of the network operations performed. They include the composition and sequence of labour processes and types of activities; the nature and modes of work; the placement of people in certain working places; the creation of a material environment for the operation; and so forth.

Economic factors of the informal economic network Involve addressing issues of planning revenues, profits, costs, pricing, methods of payment and incentives for participants, efficiency, and the like.

Logical and organisational factors determine the order of the functioning of the informal economic network, its communications, operations, information capabilities, decision-making features, and the availability of feedback.

Specific factors characterise the peculiarities of the participants' behaviour, their compliance with the norms, rules, and standards established in the network, and the possibility of crisis situations and conflicts.

Psychological factors are associated with a focus on joint, interdependent activities, common values, interests, perceptions, and the like.

It should be noted that in informal economic networks, formal relations are widely used and may take the following forms:

- subordinate – relations involving the level of hierarchy between managers and their subordinates (relations of power, dependence, domination, and subordination);
- functional – relations concerning the implementation of specialised activities, that is, their duties. This kind of relationship is not necessarily related to the subordination of one network member to another;
- paternalistic – relations between elders (by status, by role, etc.) who take binding decisions for other members of the network; and
- contractual – requirements, norms and rules on joint activities, undertaken obligations, Which are recorded in the documents.

The most important sign of the level of organisation of the informal economic network is the consolidation of the conditions for the interaction of partners on the basis of verbal agreements and their necessary observance of these.

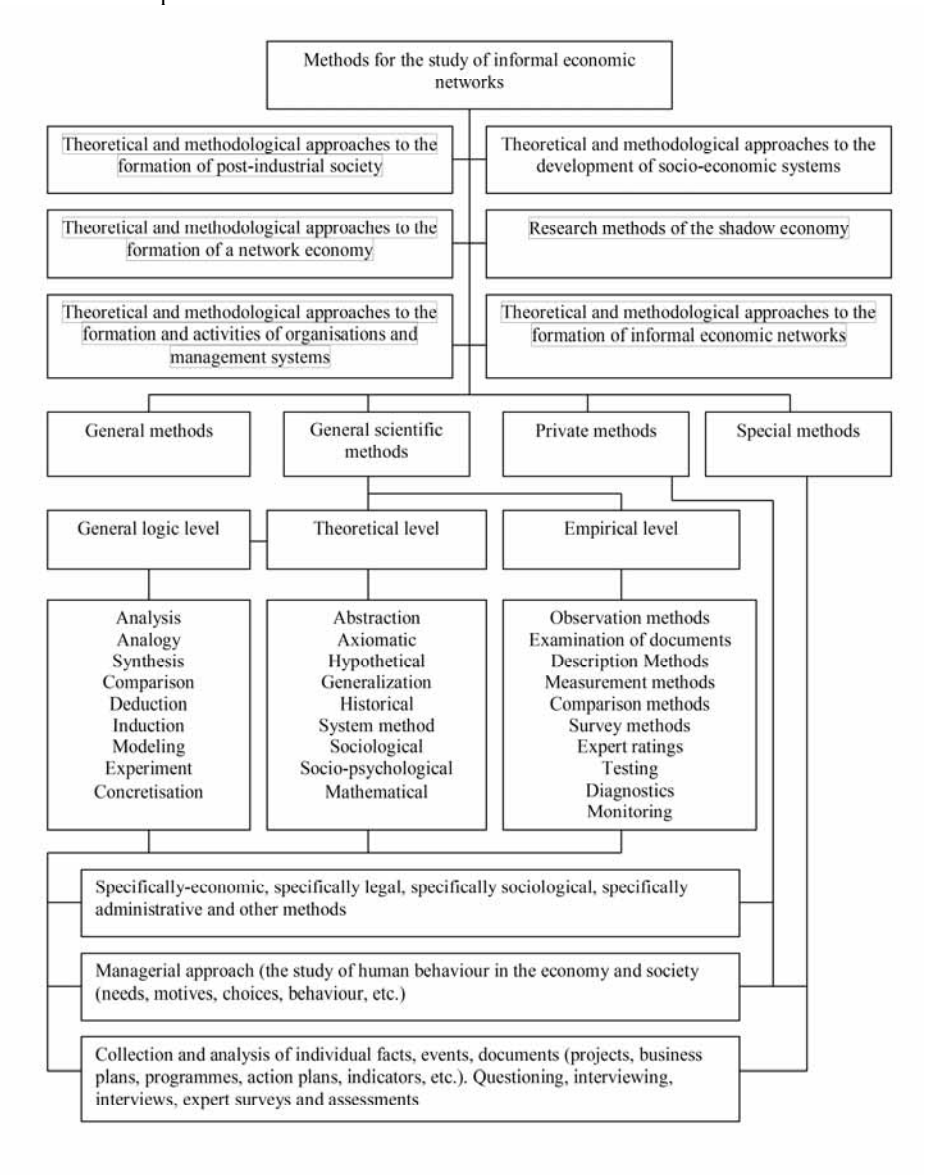
The complexity of the organisation and the multidimensional nature of the functions of informal economic networks means that complex methods are required for their study. In this regard, the study of this type of network requires an analysis of the external situation in order to identify the prerequisites and conditions for its formation and functioning. In addition, it is advisable to study a number of concomitant factors that determine the characteristics and types of informal economic networks. Thus, the study of informal economic networks requires the use of a set of theoretical and methodological approaches to the formation of a post-industrial society; to the development of socio-economic systems; the formation of a network economy; the existence of the shadow economy; the formation and activities of organisations and management systems; and approaches to the study of informal economic networks, taking into account their significant species and functional diversity.

The approximate composition of the main methods of research of the various aspects of informal economic networks is shown in Figure 2.

It is necessary to use methods of a universal character, general scientific, private, and special. The basis of the research of the scientific problem under consideration can involve a systemic approach, including its subject and object function and structure, resource and target aspects, and various instrumental techniques for conducting specific scientific research.

Figure 2

Composition of Research Methods for Informal Economic Networks




*Source: Author-Developed.*

**Typology of network structures**

There are many reasons for ranking network structures by the various types: by subject, by object, by composition, by scale, and so forth. Hence, in the works of Oleinik (2004) and other scientists, the content of the following types of network structures is disclosed:

- community – village gathering with the participation of heads of peasant families, which implies autarky, i.e. decentralised decision-making procedure (Akhiezer, 1998);
- clique – a type of community of specially selected participants capable of violating the norms of other citizens;
- clan – relationships based on familial and friendly relations (Fukuyama, 2004);
- clients – a network with disproportionate distribution of power resources and based on informal, but hierarchical relations between the 'patron and client' (Afanasyev, 2000). This is the basis for the formation of criminal organisations (Gambetta, 1996);
- "Buddy System" – a network based on informal relations between friends and acquaintances;
- district – a model for local interactions of industrial enterprises concentrated in a limited space and specialising in the production of similar types of products. It requires norms of mutual trust and wide family ties;
- cluster – a group of interrelated firms concentrated in a certain territory; and
- project – this temporarily unites completely different people who actively interact with one another for a relatively short period of time.

In the services sector in Russia, there is a substantial number of economic agents who co-create the institutional basis for networked forms of organisation, both in the formal sector of the economy and in its shadow component.

As components of a wide variety of economic networks that play a significant role in the services sector of the Russian Federation, the following types should be noted: household networks (a form of organising the private life of individuals living together); networks of legal entities (commercial and non-profit organisations); networks of entrepreneurial structures (forms of interaction between business entities); networks of credit and financial services (banks, microfinance structures, funds, etc.), trade networks (networked retail); franchise networks; Internet commerce networks (Internet shops); and network marketing.

In actual practice, many types of informal economic networks, which can be classified according to a number of characteristics (Table 3), exist in Russia.

Each type of informal economic network has differences in its structure, manifested through an organisational structure, which is understood to be the composition of its elements, connected in a certain configuration through links and interactions between themю Any network (formal or informal) is an organisational structure in which its elements (participants), relationships, coordination and management bodies, responsibility and authority, etc. are represented. The organisational structure may be vertical

(hierarchical), horizontal, functional, and the like. If the organisational structure of entities (divisions, companies, and networks) that operate in the open sector of the economy is accessible to researchers, the structure of informal networks is closed not only for outside observers, but also to most of their direct participants and partners.

Table 3

Classification of Types of Informal Economic Networks in the Service Sector

| Sign (criterion) | Type of Informal Economic Network | Brief Description |
|---|---|---|
| Attitude to the environment | Internal<br>External | Internal networks are part of any organisation or network |
| Size (scale) | Large<br>Average<br>Small | Size is related to the number of participants, the volume of activities, the coverage of industries, etc. |
| Locality of activities | Formal sector<br>Informal sector | An informal network can function in the formal sector, in the informal sector, or both at the same time |
| Profitability | Commercial<br>Social<br>Retsiproknye | Gain and distribute income<br>Product: power, prestige, and career<br>Retsiprokny exchange |
| Hierarchy | Horizontal<br>Vertical<br>Diagonal | In the horizontal network, one coordination center is created; in other species, several |
| Stability of interaction | Stable<br>Dynamic | Long-term contracts<br>Temporary contracts |
| Level of centralisation | Centralised<br>Decentralised | One or more decision-making centres<br>Functions on the basis of the participants' self-management |
| Type of needs | Needs-oriented networks<br>Special needs networks | Provide services that meet the mass needs of the market<br>Provide services that meet specific needs of certain categories of the population |
| Type of targets | Strategic<br>Operative | Achievement of strategic goals<br>Achievement of current goals |
| Main participants | Individuals<br>Legal entities | Individuals, groups, and households<br>Enterprises and their associations |

*Source: Author-Developed.*

Among the main factors influencing the type of organisational structure of the network are the following: the goals and objectives of its activities and development; the industry specificity of the activity; the characteristics and features of the work and services performed; the composition of the participants and the content of their functions; the features of the relations between the participants and the methods of their management; the technical means; consumer demand; labour organisation; and the skill level of the participants.

Informal economic network uses the form of its organisational structure, which is beneficial to it for a given period of time. In this regard, they are dynamic and regularly undergo

changes if the volume of activity and the size of the networks increase or decrease; the list of activities (the range of products, works, and services) is expanding or shrinking; environmental conditions change significantly; the system of relations between the participants of networks is complicated etc.

When they choose a type of informal economic network, its creators are guided by the main provisions discussed below.

First, special attention is paid to management issues, that is, the definition of the entire community of relations both within the management system and between management and executives in the course of the activity. Of particular importance is the relationship between managers who have a direct impact on all other interactions of network staff and thereby influence the final results of activities.

Second, the hierarchy, powers, and responsibilities of all employees are manifested in the organisational structure of the network, which determines the speed of communications and the transfer of interactions according to the 'task-execution' principle.

Third, the organisational structure of the network indicates the priority of each participant in the management hierarchy, which allows him or her to determine his or her responsibility, authority, level of payment, and access to social benefits provided by the organisation as a whole. These circumstances make it possible to include each employee in social groups, thereby forming a special relationship among network members.

The research conducted reveals the connection between the models of informal networks and theories and concepts of the development of the economy and society (Table 4).

Table 4

Communication Types of Models of Informal Networks in Relation to Theories and Concepts of the Development of the Economy and Society

| Name of the Approach/Feature | Type of Informal Economic Network Model |
|---|---|
| Classical approach | Qualifying |
| Neoclassical approach | Polyfunctional |
| Institutional and neo-institutional approaches | Multi-criteria network with functional specialisation |
| Evolutionary approach | Evolutionary network |
| Behavioural approach | Behavioural network model |
| Restructuring and re-engineering of business processes and structures | Model based on a radical transformation of the network structure |
| Change management approach | Network models that take into account changes in the environment |
| Strategic approach | Network model based on the strategic development horizon |
| Corporate culture | Network model based on a specific corporate culture |
| Project management concept | Network model based on project management |

*Source: Author-Developed.*

The existence of a link between models of informal networks and theories and concepts of the development of the economy and society is explained by the reasons that follow. First,

the informal sector is merely a component of the economy as a whole in which the provisions of the theories and concepts that define the features and directions of development of the entire society are implemented. In this regard, innovations that are implemented in sectors of the economy affect the informal sector, thereby influencing its content. Failure to comply with this provision will lead to an increasing lag for economic entities in the informal sector in relation to macroeconomic development trends, their 'falling out' from the system of economic relations.

Second, the reorientation of the economy and society to new theories and concepts of development requires the timely and adequate adaption of subjects of the informal sector to these, if only to preserve the old nomenclature and the volume of benefits received. This forces the economic agents of the informal sector to constantly monitor the situation in order to predict the nature of events and evaluate the consequences of their occurrence.

The formation of the organisational structure of the network is based on the following basic principles:

- the optimal number of stages both in the control system and in the entire network;
- the unambiguity of the distribution of official functions and duties both between the network subdivisions and between their managers;
- the adaptability of the structure of the units depending on the operating conditions of the network as a whole; and
- the profitability of the organisational structure of the network in terms of the cost of its maintenance.

The principle of the optimality of the organisational structure of the informal economic network implies determining the number of subjects, divisions, and individual elements, the rational relationships between them, and the division and specialisation of work.

An excessive number of elements can increase communication between departments and the time required for the passage of information between them and complicate the entire process of managing the network. On the other hand, excessive specialisation requires an increase in the productivity of workers. However, it creates difficulties regarding the interchangeability of workers and leads to the fragmentation of their functions and responsibility for the timeliness and quality of work.

Increasing the concentration of work, for example, in the form of creating large units, contributes to the implementation of complex work. However, excessive concentration can complicate control over the activities by the top management.

The principle of unambiguity used in the distribution of functions and responsibilities between groups, departments, and individual employees allows the elimination or reduction of the likelihood of the repetition of work and functions, as well as of parallelism, and of the ambiguity of submission. This implies a clearer definition of the boundaries between divisions and individual network workers'. The principle is based on the rule that one immediate superior relies on a small number of performers (1-7 people), which requires clearly defined responsibilities for them within the framework of the work performed.

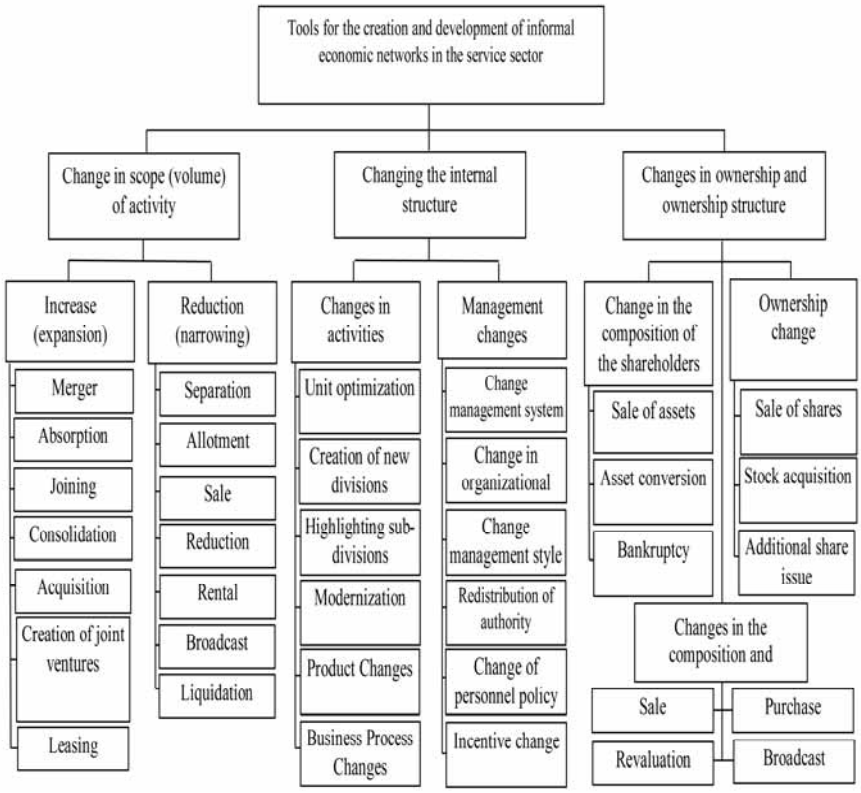
The principle of the adaptability of structures, that is taking into account the environmental conditions, is aimed at the timely restructuring of the constituent elements of the network, thereby optimising their relations with one another, which is necessary in cases of the emergence of new tasks and activities.

Orientation to the efficiency of the organisational structure of the network in terms of the cost of its content suggests that the creation and improvement of units and links will be optimal, not exceeding what is economically necessary.

Use of the principles discussed above allows their creators and participants to improve the organisational structure of the network in order to ensure the actualisation of the modern form of their organisation and rationality of functioning.

Figure 3

Tools for the Creation and Development of Informal Economic Networks in the Service Sector




*Source: Author-Developed.*

The formation of network structures is carried out in various ways, using diverse tools, including integration and disintegration: the creation of new structures and their elements, the transformation of existing structures, the merging of several elements, the conjoining of some elements, making use of the cooperation of subjects, the division of labour and functions, the selection of some elements from the composition of large structures, the elimination of unnecessary elements, and the like (Figure 3).

Different countries and industries use different tools for creating and developing informal economic networks in the service sector. Hence, for example, the modern Internet industry, which is becoming increasingly mature, is moving into the era of the mobile Internet, which activates in it the processes of restructuring, transformation, and the merging internet businesses. The reasons are strategic: the need for the rational allocation of the resources of a mobile terminal and the growth of new market and technology needs. Attracting investment in innovations, creating alliances, mergers and acquisitions, and other network-based media have been used by Internet companies for cross-border expansion (Ma, 2017; Jing, 2014).

## Conclusion: Ways to Legitimise Informal Economic Networks in the Service Sector

Network research has become popular in many areas of science due to the need to solve various global and national problems. It offers a holistic view of the structure of inter-organisational, interfirm, intergroup, and interpersonal interactions.

The use of online forms of organising activities around the world continues to grow. In this regard, it can be predicted that the growth in the number and diversity of informal economic networks in the service sector will also continue. Below, we note a number of directions of their legitimisation and the modification of their negative qualities into positive ones.

*Change of public policy paradigm*. The majority of participants in the informal economic networks in the service sector are not enemies and criminals of society – they are forced by circumstances to engage in hidden activities. The fight against the shadow economy and the illegal self-employment of the population, which is currently primarily subject to criminal administrative prosecution, must be complemented by a real solution to the social and economic problems of the population. In particular, it is necessary to ensure unconditional compliance with laws in the field of labour relations. Many workers in the formal sector of the Russian economy do not have legally binding labour relations with their employers; they often work irregularly and do not receive timely wages. Employers themselves actually go to the informal sector of the economy and contribute to its expansion at the expense of their employees, who are forced to earn extra money for their survival.

At present, participants in informal economic networks do not have a permanent platform for interacting with government authorities and trade unions to express their problems. In addition, there is actually no other party that could (and should!) listen, study comments, suggestions, and jointly solve these problems. It is necessary to establish and maintain the connection of ‘informals’ with politicians through meetings at local, regional, and federal

levels, which will allow for the understanding, protecting, and satisfying of the needs of people who are, for various reasons, employed in the informal economy.

*The development of survival skills by the population*. The vast majority of workers who are exclusively employed in the informal sector of the economy (tens of millions of people) do not have reliable sources of income for life or the opportunities and financial resources to start their own business. Therefore, they and their families are vulnerable to the risk of possible economic crises, business risks, and various negative life events. The country should provide an opportunity for informal workers to create self-help groups (cooperatives, funds, etc.) that combine their small free monetary resources to use as a source of loans. This will require financial literacy courses and training for a wide range of people.

The development of survival skills should be the subject of special programmes for the populations of economically problematic regions of the country. Features of normal life such as work and pay, economic mobility, and careers in such regions are frequently associated with low levels of education, limited skills. Government investments are needed for the development of entrepreneurial skills of workers in order to extricate them from the informal sector in order to increase their wages, diversify their work, and expand their employment opportunities.

*Strengthening market relations*. In some regions of the country, many entrepreneurs often operate in small markets in conditions with a high level of monopolies and corruption and the suppression of market freedom, which forces them to work into the informal sector of the economy, which significantly reduces the sales volumes of their goods and services, which then leads to a reduction in income and the development of irregular employment. It is necessary to significantly expand freedom of access to the market and to optimise competition in order to ensure the linking of producers to consumers and buyers. The development of cooperative and social entrepreneurship will allow many people employed in the shadow sector of the economy to legalise their activities. It is advisable to create fully transparent supply chains of products and services and to establish direct and feedback links to connect manufacturers in all production chains with consumers.

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## *SUMMARIES*

*Alla Kirova*

### LOOKING AT NEW ECONOMIC PARAMETERS IN NATIONAL, REGIONAL, EUROPEAN AND GLOBAL CONTEXT

The article reviews the results of scientific and applied studies and projects of academic staff and practitioners related to the current tendencies in the economic theory and practice, and the economic challenges facing the development of Bulgaria, the countries of the region of Southeast Europe, the European Union and globally presented during the international scientific forum of the Economic Research Institute at the Bulgarian Academy of Sciences, dedicated to the 70th Anniversary of the Institute.
JEL: B4; E00; F00; J00; M00; O1, O3; Q00; R1

*Marin Galabov*

### ECONOMIC EFFICIENCY OF REAL SECTOR COMPANIES – NATURE, TYPES, ELEMENTS, INDICATORS AND MODELS

This paper includes an introduction, four parts and a conclusion. It presents a survey focused on the economic efficiency of real sector companies, i. e. the companies operating in the segments of production, trading and services.
The presented research work is based on the Bulgarian legal framework regulating the elements of economic efficiency of companies and the economic efficiency itself. The elements represent useful results (economic effects) such as net sales revenue, total income, sale and corporate profits and corporate expenses and resources (assets, capital and personnel) employed in their realization.
The discussed issue is topical and important as the use of corporate resources and incurred corporate expenses are directly related to the useful results generated through such resources and expenses. So, companies may analyze, plan, control and seek options to optimize their economic efficiency.
The presentation of economic efficiency in terms of the Bulgarian legislation is based on information reported in the financial statements and certain accounts of companies. As we know, the Commercial Register is freely accessed, so experts at a given company may study the efficiency of their competitors using data presented in their financial statements published in the said Register. That access allows lecturers, analysts, consultants and other professionals to study the economic efficiency of other companies. They may use the indicators and models presented in this work as well.
JEL: L20; M20

*Sergey Savchenko*
*Olena Sukach*

### HOME BIAS AND EUROPEAN INTEGRATION

The article estimates the size of home bias between 28 EU states between 2010 and 2018 and its variance between 17 industries. The assumption of the work is that home bias can be treated as a measure of integration: the smaller it is, the more countries are integrated. The aim of the article is to analyze bilateral trade flows of 28 EU states, and using Poisson pseudo-maximum-likelihood method

calculate border effect for trade between these countries. Disaggregation of data into 17 production sectors will help to estimate the border effect more precisely. The methodology of the research is based on the gravity model estimation of panel data for 17 sectors, 28 countries and 9 years.
Using gravity model approach, it has been detected that the home bias is still present within the EU; however, it is decreasing with time, proving that the level of integration between states has increased. Another finding of the research is the diversity of home bias between sectors: it varies between 86.48 and 2.58, which can be explained by the difference in the rate of substitution between goods of domestic and foreign origin across industries.
JEL: F02; F13; F47

*Hristina Blagoycheva*
*Andriyana Andreeva*
*Galina Yolova*

## SOCIAL ECONOMY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT AND SOCIAL INCLUSION (ECONOMIC AND LEGAL ASPECTS)

This paper aims to explore the social economy in the context of sustainable development and social inclusion, while tracking the developments in the legal framework of the social economy in Bulgaria and analysing some basic concepts. On the basis of this analysis, the authors have made generalisations and drawn conclusions.
JEL: K29; K31; L31

*Tatyana Netseva-Porcheva*
*Vasil Bozev*

## RESEARCH ON THE RELATION BETWEEN COMPANY PRICING OBJECTIVES AND PRICING STRATEGIES

The aim of this study is to find out which are the pricing strategies used by the companies operating in Bulgaria in terms of their pricing objectives. In this regard, the study provides a literature review of the theoretical developments and empirical research on company objectives and pricing strategies as well as an empirical survey. Based on the survey data, two groups of pricing objectives were distinguished: of universal and of specific nature. It was found out that universal nature is more typical of quantitative objectives, whereas specific nature is more typical of qualitative objectives. In terms of specific objectives, it was shown which pricing strategies are used for their achievement.
JEL: M39; D47

*Mariya Neycheva*
*Ivan Neychev*

## OVEREDUCATION AND ECONOMIC GROWTH: THEORETICAL BACKGROUND AND EMPIRICAL FINDINGS FOR THE REGION OF CENTRAL AND EASTERN EUROPE

One of the issues which has gained considerable attention in the recent labour market literature is the increase of both average educational attainment of the population and qualification mismatch. With

regard to that, this paper aims at examining the impact of overeducation on long-run economic growth. It discusses the main transmission channels and mechanisms of that impact. Moreover, by incorporating qualification (mis)match in the neoclassical model of growth with human capital the study presents an empirical estimation of the link between mismatch of tertiary education graduates and real GDP per capita growth across the EU members from Central and Eastern Europe. The results show that though investments in human capital accelerate the rate of growth, the higher percentage of mismatched graduates displays a negative effect. This outcome is robust to the changes of the approach used to measure overeducation and the method of estimation as well.
JEL: I25, E24, E27, E13

*Raúl de Arriba*
*María Vidagañ*
*Ana Botella*

## LEARNING ABOUT MIGRATIONS THROUGH CONTEMPORARY ART

Since art is a world-recognized platform for the representation and interpretation of social processes, in this paper we take an original approach and use the opportunities offered by art-based research in order to analyze the development of new narratives about the migration phenomena. Particularly, we apply a selected review of the main work of several contemporary artists whose interest is strongly focused on the economic, social and political issues related to migrations. Moreover, the paper explores the possibilities and obstacles offered by art for the dissemination of related research. In this regard, we believe that our paper contributes by enhancing the important relationship between art and social phenomena, like migrations. This relation includes, at least, two shared areas: first, the understanding that art is a space for the representation of various social processes traditionally addressed by social science. For instance, although political science scientists, economists, sociologists, historians, anthropologists, geographers, etc. have extensively dedicated their work to study the migration phenomena, it is less recognized the large work of artist on migrations. Accordingly, artists are accustomed to transdisciplinary intellectual work and creativity and therefore, the discourse of art on the migrations phenomena brings a fresh perspective and is welcome. Second, one of the differences between scientific research and artistic research is that in the latter, the decisions on how to dispose the elements that participate in the research and even the protocol itself is decided previously by rationalistic hypothesis and method. However, in artistic research, a final result is not as relevant, but rather the importance of the research lies in the process itself. The process approach leads each artist sets their own rules of action and this does not have to be justified beforehand. In this sense, our aim is not to replace the scientific discourse but to rescue the artistic approach as complementary and take advantage of its seductive, emotional, creative and formative potential.
JEL: J12; Z11

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## INFORMAL ECONOMIC NETWORKS IN THE SERVICES SECTOR

This article presents the results of a study of the organisation of informal economic networks and their role in the modern economy. The main characteristics of the network economy are discussed, and an

analysis of domestic and foreign approaches to concepts that reveal the content of the informal economic network is conducted. The typologies of network structures are considered, and the classification of types of informal economic networks is presented. Models of informal networks are associated with theories and concepts of the development of economy and society. Management tools for the creation and development of informal economic networks in the services sector are defined and systematised. Disclosed and generalised approaches to the content of informal economic networks of the service sector. Key concepts are disclosed and an idea of the results of their research is given, which can be used in further developments on this scientific problem. The results of this study may be useful to specialists in the field of management and economics, dealing with problems of improving efficiency in modern conditions when studying theoretical and practical issues of management optimisation.
JEL: L80; M20; M29