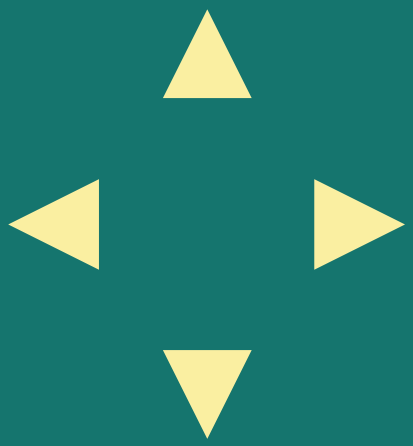
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INTRODUCTION

DEAR COLLEAGUES, FRIENDS AND SUPPORTERS,

The first issue of the Journal of Management Sciences and Applications (JOMSA), which has its interdisciplinary orientation and focus on issues of management, public sector, regional development, marketing, transport and infrastructure, is before you. We created our journal to be able to impose expertise on the issues of our daily life. Now at the end of 2022, we are pleased and honoured to address all of you - our authors, readers, supporters and friends - with our wishes for your health, success and personal happiness as we present the first issue. For all, the launch of the first issue of the Journal of Management Sciences and Applications (JOMSA) is a new beginning for a promising cause that together we can write for many years to come. We hope that with this interdisciplinary journal, together with our authors and readers, we will set a benchmark of research-based analysis, foresight and innovation that, in the pages of our journal, will share your research explorations with the growing readership of our journal. We, will seek coverage of major trends in management science, as well as coverage of scientific forums and events of national and international importance, we will publish reviews and book reviews of newly published books and monographs.

Here, we would like to express our gratitude in advance to all the contributors and members of the editorial board who have helped to lay the foundations of our expertise to enhance the quality of the published materials that readers will access. In 2022, the journal will be publishing a new issue of the journal. ""The Journal of Management Sciences and Applications (JOMSA) has deservedly begun its journey into scholarly publishing in an electronic environment. All this obliges us to work harder, because Bulgarian science needs highly indexed journals that receive recognition in international and national databases. At the same time, the Journal of Management Sciences and Applications (JOMSA) remains a tribune for sharing good scientific experience, for innovations in management, regional development, planning, transport, infrastructure, public administration, emphasizing its interdisciplinarity. This commitment to the promotion of scientific results gives us reason to continue informing our readers about current events in science and higher education in the future. Good luck to the "Journal of Management Sciences and Applications (JOMSA)"

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OPPORTUNITIES AND CHALLENGES IN PUBLISHING AND PROMOTING SCIENTIFIC JOURNALS IN BULGARIA

ABSTRACT

Presentation of scientific papers is associated with the creation of new scientific journals and the maintenance of established periodicals. This paper discusses and analyzes two challenges to publishing scientific journals in Bulgaria – first, securing a pool of suitable reviewers and second – maintaining good relations with potential authors. The paper proposes views based on exponential thinking that would lead to profound, positive changes based on the use of new technologies in scientific journal publishing. In practice, they are inextricably linked to the implementation of social innovations, resulting from the establishment of a new balance among stakeholders at different levels of realization of management. The paper attempts to assist lecturers and researchers in their professional pursuits.

KEY WORDS

organizational culture, educational and research institutions, human resource management, exponential thinking.

JEL

M12, M14, I20

INTRODUCTION

The contemporary challenges facing the publishing of scientific journals in Bulgaria are no longer significantly different from those in developed economies, due to the advent of the Internet and the digitalization of many of the related activities, the resulting opportunities to minimize some of the costs in this sphere, and the relatively high level of awareness of the right approaches and practices among decision-makers and management units in our country. This is not to say that chief (guest) editors, editorial boards and sponsoring institutions, and all other stakeholders in this endeavour, can afford to 'go with the flow' in today's constantly and rapidly changing business environment where whole industries are being disrupted, new obstacles and disruptions are emerging, business models are being refined (Williams, 2015; GMAC, 2013), and familiar predicaments revolve with new features whose solution often proves impossible through traditional management methods (Zlatev, 1999). The main challenges facing scientific journal publishing include those related to defining and assuming authorship responsibility, overwork and low motivation among reviewers, the phenomenon of "fake

reviewers", co-existing publishing models ranging from open access to "predatory publishing", imposed research (statistical) approaches, plagiarism, necessary regulations and proclamations (disclosures), including for unethical behavior, and last but not least, problems, resulting from the inevitable amendments, corrections and withdrawals of proposed papers for publication (Hausmann, Murphy, 2016; Ajami, Movahedi, 2013). In this publication, the research interest focuses on two specific challenges – securing a pool of appropriate reviewers and maintaining good relationships with potential authors.

1. ENSURING A POOL OF SUITABLE REVIEWERS

Ensuring a steady stream of suitable reviewers for incoming article proposals from a variety of authors, which, if approved, could be directed to publication in the relevant scientific journal, has traditionally represented a 'bottleneck' in the management of the publication process for each editorial board. Specific common (critical) situations in the search for potential reviewers and subsequent communication with them can be identified, namely:

- In the case of start-up journals, members of the editorial board deliberately seek out relatively prominent colleagues in certain fields of science in order to obtain their agreement to be included in the initial lists of referees for proposed articles in the first issues of the respective scientific journal.
- It is common practice to solicit people who intend to publish for potential reviewers – as early as when they register with the relevant electronic journal management platform. Of course, a possible refusal to publish the proposed work would certainly have an emotional impact on the author concerned, who is very likely not to accept an invitation to review another publication proposal addressed to him (her) at a later time. Furthermore, the groups of familiar colleagues in the scientific field for members of the editorial board and already published authors very quickly prove to be too narrow to satisfy the needs of a serious scientific journal that publishes at least four issues per year.
- Often, editors-in-chief require potential authors to recommend one or two prospective referees in the relevant scientific field when submitting their proposal for a scientific publication to the relevant electronic publishing management platform. Of course, the respective editors never openly state to the respective authors that the recommended colleagues will not be invited to review their potential publication, as there is a conflict of interest here. De facto, the editors thus expand their list of potential reviewers in the relevant scientific fields covered by the journal concerned.
- There are cases where editors-in-chief of scientific journals may exchange lists of suitable reviewers with each other.
- A widely used approach is doing a targeted search for specialists in different fields of science in the world's most popular databases of scientific literature, and especially in these that provide open access to indexed articles from other quality journals in the same field. In the latter case, the authors of the relevant articles constitute the target group for the respective editors-in-chief, members of editorial boards and associated administrative staff.

It is quite another question to what extent the selected specialists are the leading ones in the respective field, since in most cases the research is based on information filled in by third parties (other publishers) or by the authors themselves, the latter being interested in positioning themselves and their products in the best possible way to attract more readers and higher citation rates for the purpose of successful career development. Thus, editors-in-chief and members of editorial boards find themselves forced to undertake the laborious and time-consuming task of reviewing the publications of potential reviewers to assess in advance how well they would cope with their new role as evaluators of their colleagues' scholarly output.

Not to be overlooked is the usual position that a potential reviewer holds as a co-author on their publications – first author, second author, etc. Does the same person write more independently or in a team of researchers? What is the usual number of members in the respective scientific team that

produced a given article? The answers to the questions posed at these key points can be seen as indirect indicators of the degree of penetration into (knowledge and research of) a topic in a given scientific field by a potential reviewer.

Practical experience shows that quality in peer review is often ambiguously understood. On one hand, the same is a prerequisite for allowing only articles to be published that meet the current requirements for scientific creativity in the relevant scientific field, imposed by the world's leading research institutions and scientists. On the other hand, reviewers' ignorance or neglect of important factors determining the managerial, economic, social, political processes and the course of the research process in diverse local environments (e.g. lack of modern and reliable research software, underdevelopment of the "university – business organisations/associations" relationship, insufficient knowledge of new research methods, lack of familiarity with specific problems in the relevant field or region) may lead to the emergence of certain preferences and the accumulation of a number of trade-offs in setting specific research questions and carrying out the relevant studies underlying the potential publications, which would lead to the rejection of otherwise very useful prospective publications from the relevant region or vice versa - their excessive favoritism against the rest.

Last but not least, the potential effect of nepotism in the scientific sphere should also be noted, finding concrete realization in the peer review process, when any of the two parties involved (AN author and reviewer) makes an effort to violate to some extent the rules of double blind peer review of the respective publication proposal, recognizing an author's style and seeking contact with him to discuss the potential article. The latter discussion may prove useful to both author and reviewer, but in any case would leave the unpleasant taste of undeserved support received. And this is not necessary, since the Editor-in-Chief or Guest Editor later decides how much of the review content to select and make available to the author of the submitted publication proposal for reflection and to request grounded responses from the author to the comments and questions raised. It is for this reason that the worldwide practice of using at least two reviewers for each proposal of a scientific publication in a relevant journal has become necessary.

The postulates of the cultural management perspective (Schein, Schein, 2017; Nguyen-Phuong-Mai, 2019) dictate that overcoming the problem of securing a sufficient number of high-quality (excellent, outstanding) reviewers for incoming article proposals in the scientific fields, covered by the respective journal, requires considering and balancing the interests of the stakeholders in the process – the reviewers, editor-in-chief, (guest) editors and members of editorial boards, authors, governing bodies and administrators of electronic platforms for publishing, indexing and disseminating scientific content, each of whom performs relevant functions:

- the main added value in the observed interaction is generated by the reviewers, who produce the final product – the evaluation of the respective proposals for scientific publications. However, their work is usually not rewarded, unlike the contributions of the other stakeholders. It is commonly assumed and even inculcated in the scientific community that peer review is simply one of their unrewarded functions (a duty to society), indirectly providing them with a sense of belonging to the academic community.
- Chief (guest) editor and members of editorial boards – interested in the sustainable development of the respective scientific periodical, expressed in: (a) maintaining the high-quality of the scientific articles published in accordance with the modern requirements for the application of qualitative and quantitative methods in research and their appropriate ways of presentation to the target audience. (b) regularity in the publication of the respective issues of the journal with the appropriate number of articles at a predetermined subject matter. De facto, the representatives of this stakeholder group are the initiators of the evaluation process carried out on the relevant scientific products. Often the scientific journals are owned by well-known scientists and not by the universities or research institutes concerned. And many institutions chronically underfund this activity, relying primarily on the enthusiasm of colleagues 'dedicated' to maintaining the respective scientific periodical. But, as is well known, enthusiasm quickly wanes in the absence of adequate organisational support, in terms of not

only providing funding directly for the publishing process, but also for recruiting of the necessary staff, establishing and maintaining the necessary contacts, exchanging experiences, etc.

- The authors are eager to publish their scientific output, presenting the results of quantitative and qualitative studies, systematic reviews and analyses of similar research, and the creation of new concepts and theories in the relevant scientific fields. This strong desire in authors is also encouraged by the current requirements for employment in the scientific field introduced by the respective educational and scientific institutions where they contribute. The implemented systems to manage the performance of researchers should aim at establishing a healthy balance between quality in science (recognition: citations, invitations to speak as a guest at leading international scientific events, inclusion on relevant committees, juries and panels within other educational institutions, the civil service or at the level of quasi-governmental organisations - for example, the European Union) and productivity (number of publications per year or other appraisal period).

In fact, securing a peer review for a potential scientific publication in a relevant journal can be considered as a project and therefore its management is logically subject to the principles of project management (Nguyen, Mohamed, Panuwatwanich, 2018; Missonier, Loufrani-Fedida, 2014; Jepsen, Eskerod, 2009). Furthermore, there is a total lack of consensus among the researchers themselves on the appropriate way of perceiving and respecting this highly skilled work, as the range of their de/motivation (Blašková, Tumová, Blaško, Majchrzak-Lepczyk, 2021; Angelova, 2018) in relation to the performance of this task turns out to be too widely open, as revealed by the submitted answers to a research question by Yousif (2020) in the ResearchGate academic community, namely:

- defining peer review as a voluntary provision of a free service to the scientific community and its acceptance as a duty (vocation) for every researcher.
- the opportunity for the researcher, in his role as a reviewer, to become thoroughly acquainted with the work of colleagues, to update his knowledge, to improve his skills in writing scientific output, to accumulate and transmit specific research experience.
- invitation to review a proposal for an article in a journal is perceived as a public recognition of the merits of a researcher in a specific scientific field by his/her colleagues.
- joining the team of reviewers of a scientific journal is defined as an opportunity for in-depth discussion of some interesting scientific issues between the reviewer and the authors, and I would add with the mediation of the editor-in-chief (guest editor).
- assessment and recommendations for refinement of potential scientific publications embodies pleasure for the reviewer.
- demonstrating open disapproval of commissioning/accepting to perform for free, complex work task by high-qualified reviewers, given that publishing companies generate profits. A demand is made for financial remuneration.
- recognizing the need of compensating this highly skilled work through other extrinsic rewards that can be offered by various stakeholder groups, such as a certificate of recognition for peer review, providing reviewers with a subscription to a relevant paid journal for a specified period in their preferred format (digital or paper), including peer review of scholarly publications as a quantitative indicator in the appraisal system of relevant scientists and lecturers with appropriate weighting for the performed work task.

In fact, it is clear by now that a more comprehensive and in-depth analysis of stakeholder groups needs to be carried out on the basis of which corrective actions can be taken. It is not only a question of identifying the stakeholder groups, their required contributions, their interests, but also of anticipating expectations for securing satisfactory external and internal rewards for the outputs produced by the reviewers, assessing their demonstrated commitment, the power of influence they possess over the other project participants (AN publishing a high-quality research product in a scientific journal), choosing specific strategic moves and tactics to appropriately impact each stakeholder group when deemed necessary (Jepsen, Eskerod, 2009; Cabanis-Brewin, 2007).

So far, solutions to the problem of building and maintaining a sufficient pool of candidates for reviewing proposals for scientific articles by authors have been proposed and implemented only at the organizational level (i.e., the editorial board and adjunct staff of a particular scientific journal), which is at the root of the unsatisfactory and unsustainable results achieved by the corrective actions undertaken. Clearly, it is now time to look at the problem differently by identifying and segmenting the overall target audience confronted with this large and revolving problem in a given geographic region and across national boundaries (AN all economic universities and other universities with business faculties in Bulgaria, and in the other member states of the European Union) in order to seek for innovative, unique and ambitious decisions, contributing to the formulation of a radical solution to a difficult problem through the creative use of new technologies, establishing a desirable culture at organisational, sectoral, national and international levels and introducing social innovations (Ismail, Malone, van Geest, Diamandis, 2014; Diamandis, Kotler, 2012). Clearly, this is about applying the principles of exponential thinking, oriented towards deep and huge change, high value creation and unprecedented growth – tenfold or more than the current level (Bonchek, 2016; Ismail, Malone, van Geest, Diamandis, 2014). And more specifically, it means taking specific initiatives, such as:

1) Conclusion of agreements between universities and research institutes – even with the mediation of the state, to approximate certain attributes in their human resource management systems, and in particular in the module for the evaluation of the work performance of lecturers and researchers, where the range of the minimum and maximum workload of reviewers for a given evaluation period and their commitment both to their employer and to another educational institution that is a party to the agreement should be regulated. This is also about negotiating the exchange and protection of professional information in this sub-area. This will specify how many and what kind of peer review projects a lecturer and researcher can undertake within and outside their institution. Thus, over-involving of certain colleagues in this activity may be avoided, either because they are considered excellent specialists or because they are characterized as extremely compliant.
2) Using data from the organisational electronic workload reporting modules for lecturers and scientists in academic institutions (if available, but if not, should be shared) and the Register of Academic Staff in the Republic of Bulgaria (NACID, 2022) as input for a purpose-built scientific peer review platform, where it should be explicitly defined which specialist (identity) in which areas of science can undertake peer review. Provide access to this platform to the chief (guest) editors, members of editorial boards, adjunct staff, the authors themselves and other interested parties through a service registration. It would probably be best if this platform were integrated with the already established national repository of scientific output – the so-called Bulgarian Portal for Open Science (BPOS, 2022) where reviewers' contributions may be made visible as counts by years.
3) In a further stage, the national repositories of all EU member states could be integrated by introducing additional language competency requirements for lecturers and scientists, allowing them to produce and peer review scientific output in the respective languages of the EU countries (or publishers, journals). Certain private electronic platforms for managing the publishing of scientific journals may also be joined under certain conditions, ensuring more open access and balancing the interests of all stakeholders. And extending the territorial reach of such an electronic platform beyond the European Union could be done along the lines of the Erasmus+ programme.

2. MAINTAINING GOOD RELATIONS WITH POTENTIAL AUTHORS ESPECIALLY IN THE INEVITABLE CORRECTIONS, REVISIONS AND WITHDRAWALS (REJECTIONS) OF PROPOSED PAPERS FOR PUBLICATION

Potential authors in a scientific journal can very often also accept the role of reviewers for publications by other lecturers and scientists at a later date. Maintaining good relations with people

seeking the journal as a communication channel for their research results is therefore a must, given that in some cases harsh refusals to publish scientific output could be challenged in court. Therefore, it is always necessary to communicate clearly and openly with potential authors, outlining the main reasons for refusing to take the publication to the next stage in the publication process (AN before peer review and at the editor's discretion; after receipt of peer review; after the editor's review of the author's responses to reviewers' comments). It is imperative in such situations to point out certain merits of the proposed scholarly output, to highlight the presence of specific deviations from the journal's publication criteria (e.g., the journal's thematic scope, problem formulation, theoretical advances, selection of appropriate methodology, and the presence of significant consequences for business and/or government policy, etc.), and to invite the author to review them more thoroughly at a future time when he or she decides to direct his or her output to the same scholarly journal again. Any potential author should not feel insulted by a refusal to publish, but simply be politely and specifically informed that they have not achieved the minimum level of quality for scholarly output required by the editorial board of the journal concerned. Furthermore, the individual should be encouraged to try again with a new, potentially better scientific product.

Providing an environment for effective communication among the members within each stakeholder group, and among diverse constituencies (Schein, E., Schein, P., 2017; ***, 2015), suggests that it would be useful to establish an association of academic journal publishers where a formal code of ethics, guidelines (rules) for the use of research standards (approaches and methods) across scientific fields, and other necessary rules for effective communication and dialogue between stakeholder groups can be developed so that they can publicly express and defend their interests, negotiate, and reach consensus in addressing pressing issues now and in the future.

CONCLUSION

This paper analyzes two acute problems in the publishing process of scholarly output in academic journals in our country, such as securing a pool of suitable reviewers and maintaining good relationships with potential authors. Solutions are proposed, relying on improving the balance of stakeholders' interests in the process, using the Internet and other digital technologies, addressing and solving problems beyond the organizational level – at regional, national and international levels, which requires transposing and aggregating members' interests within each stakeholder group and finding consensus among them.

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IS THERE A "100% LOYALTY PRONENESS" ON A HOUSEHOLD LEVEL?

ABSTRACT

In 1956 Cunningham, an American market researcher, presents the hypothesis that there is a so-called loyalty proneness. The thesis states that some consumers are to be prone to be, at the same timem loyal to several different product categories. The evaluate this hypothesis Cunningham bases his research on panel data that comes from the consumer panel of the Chicago Tribune newspaper, and he uses the SCR metric. In this article two more hypothesis based on the Cunningham's "loyalty proneness" are introduced, and evaluated, both of them being a modification on his hypothesis. The first hypothesis states that some 100% loyal households can be prone to be 100% loyal to several product categories at the same time, within a specified time limit. The second hypothesis states that in some 100% loyal households there is a proneness to be 100% loyal in one product category, for two or more consecutive years. Based on the data from GFK Bulgaria's Consumer Scan household panel, for six product categories and for four consecutive years on the Bulgarian market, both hypothesis is confirmed.

KEY WORDS

Customer loyalty, 100% customer loyalty, loyalty proneness, synchronic loyalty proneness, diachronic loyalty proneness

JEL

D11, D12, M31

INTRODUCTION

In 1956 Cunningham (Cunningham, 1956), an american market researcher, presents the hypothesis that there is a so-called loyalty proneness. The hypothesis states that some consumers are to be prone to be, at the same time loyal to several different product categories. The evaluate this hypothesis Cunningham bases his research on panel data that comes from the consumer panel of the Chicago Tribune newspaper, and he uses the SCR measure (share of category requirements), which he introduces in the sphere of loyalty market research. To be more precise, Cunningham uses the average SCR (the average of the SCR values of all the brands purchased), while one can also use the maximum SCR (i.e. the SCR of the most purchased brand). In his calculations Cunningham takes out the products purchased on a promotion/discount, and he finds there is a low correlation of r=0.3. In 1995 East (East, Harris, Willson, & Lomax, 1995) finds a modest correlation of r=0.46, while researching four different categories of consumer products. In 2008 East, Wright and Vahnuel (East,

Singh , Wright, & Vanhuele, 2008) find that if the products purchased on a promotion/discount weren't taken out of the data, the correlation coefficient values would have been much higher. They claim: "It seems likely that it is the attraction of the deal that often draws people away from their usual brand and that deal proneness should not be excluded".

In the research program "100% loyalty, 100% loyal", which was done between 2014 and 2017, a couple of modifications on Cunninghams hypothesis were introduced and tested on a specific consumer group – the 100% loyal household one. 100% loyal households are those, which in a specified period of time (usually a year) purchase only from one brand from a product category.

The first modification to Cunninghams hypothesis is that: some "100% loyal households" can be prone to be "100% loyal" in several product categories at the same time, within a specified time limit. This proneness for 100% loyalty we call proneness for a synchronised 100% loyalty, because it is based on a simultaneous 100% loyalty to two or more product categories within the same period of time. For example, when a household, in 2012, was 100% loyal in the category of margarine, coffee and washing detergents, it is prone to be in the proneness for a synchronised 100% loyalty group of consumers.

The second modification to Cunninghams thesis is that: in some "100% loyal" households there is a proneness to be "100% loyal" in one product category, for two or more consecutive years. This proneness for 100% loyalty we call proneness for a diachronic 100% loyalty, because there is a 100% loyalty to a single product category for two or more consecutive years. For example, when a household, was 100% loyal in the category of margarine in 2010, 2011 and 2012, it is prone to be in the proneness for a diachronic diachronic category.

DATA

1. Empirical Data Source

The data on which the "100% loyalty, 100% loyal" research program is based on is the result from GFK Bulgaria's Consumer Scan Panel, which surveys household spending on fast moving consumer goods in Bulgaria. The data gathering method used is fulfilling of a diary the person responsible for the household purchases. Every month two diaries are used to write in the purchases – one for every two weeks. This is done so as to control the quality of data collection (regularity of the fulfilment of the diary). The sample is multistage cluster sample. In each of the years the survey was done the size of the sample varies from 2000 to 2500 households. In one of the households there is a limited number of product categories, so as to limit the load of the person responsible for the fulfilling of the diaries, and thus increase the quality of the data stemming from this reduced load. All the recordings in the diaries include numerical values – kilograms, liters, quantity of purchased goods, as well as the prices of the aforementioned goods.

2. Product Category Selection

The product categories of frankfurters, margarine, toothpaste, washing detergents, beer and coffee, were subject to the analysis performed in the "100% loyalty, 100% loyal" research program The survey period used is from the following years – 2009, 2010, 2011, 2012. In the selection of the six product categories an important factor was for each them to differ immensely from the next, so as to be able to get the highest level of generalization of conclusions by using MSoD approach (Many sets of data). What is different in each of the product categories?

- Some are purchased mostly in the household (washing detergents, toothpaste, margarine), some are purchased externally (beer, coffee, etc.).
- Some are purchased by more than one member of the household (beer, toothpaste), others mostly by the housewife (washing detergent).
- Some have a more expressed individual consumption within the family (beer, toothpaste), others have a more expressed collective consumption (coffee, washing detergent).

- In some categories within a single purchase a single quantity of that product category is purchased (washing detergent, margarine), in others it's multiple of the same product (beer, frankfurters).

- Some categories have no consumption away from the household (washing detergent), some have a limited consumption (frankfurters in a hot dog, margarine in a sandwich), others can be consumed both within the household, and away from it (beer).
- Some categories have a more expressed individual preference (beer, coffee), others have a lesser one (washing detergent, margarine) – and more often than not the decision for the selection is done by the housewife.
- Some categories have predominantly Bulgarian brands (frankfurters, beer), some have International ones (coffee, toothpaste), and others have a mixture of Bulgarian and International ones (washing detergents).
- Some categories are more innovative (washing detergents, toothpaste), others are more traditional (frankfurters, coffee).
- The categories have a different frequency of purchases and consumption associated with them.
- Some categories have a strong expressed seasonality of consumption (beer), others have less (coffee).

3. Is there proneness for a synchronic 100% loyalty?

In table 1 of the attached data the 100% loyal household are filtered by number of categories and by years. This way when the first row of data is read, one can see that the 100% loyal households in a single product category, of the six surveyed in 2009, were 41.5% of the households, for 2010 their share was 42.2%, and so on, and the average for the four years for 100% loyal households in a single product category in the survey is 44.6%. The second row of data shows the households loyal in two product categories. For 2009 their share was 34.7%, in 2010 it was 35.1%, and so on, and the average for the four years in 100% loyal households in two product categories in the survey is 33.9%. The last row shows the average for the number of categories 100% loyal households are loyal to.

Table 1 Distribution of 100% loyal households, by number of categories, to which they were loyal to, for each year (in %)

Type of household	Year				Average
	2009	2010	2011	2012	
100% loyal in 1 category	41,5	42,2	46,7	48,1	44,6
100% loyal in 2 categories	34,7	35,1	33,9	32,0	33,9
100% loyal in 3 categories	17,8	17,0	15,0	15,4	16,3
100% loyal in 4 categories	5,1	5,4	3,2	3,9	4,4
100% loyal in 5 categories	0,8	0,4	1,0	0,5	0,7
100% loyal in 6 categories	0,1	0	0,1	0,1	0,1
Average of 100% loyal to … (number) of categories	1,89	1,87	1,78	1,77	1,83

Two facts partially confirm the modifications on Cunningham's hypothesis for the proneness for a synchronic 100% loyalty. First, the average loyalty to two product categories, out of the six surveyed, i.e. 100% loyal households are loyal to two product categories at the same time (the last row of data) Second, the share of 100% loyal households in two or more categories is an average of 55.4% (last column 33.9 + 16.3 + 4.4 + 0.7 + 0.1 = 55.4); the share of 100% loyal households in three or more product categories is an average of 21.5% (last column 16.3 + 4.4 + 0.7 + 0.1 = 21,5), and so on. When I write partially confirmed, I am referring to two things. First, with each year some households leave the strata of 100% loyal households, only to be replaced by other households incoming into it. Based on that, one can talk about a kind of a *situative synchronic loyalty*: households which in the

surveyed time limit are 100% loyal to one product category, could also be loyal to other product categories at the same time. Second, it is possible that the selection of the product categories is a factor for the confirmation or the rejection of the hypothesis, which could a source for a further research on the subject.
One more thing to note, as an interesting fact, is that the share of 100% loyal households for two or more product categories is steadily declining in the years: in 2009 it was 58.5%, for 2010 57.8%, for 2011 53.3%, and for 2012 г. 51.9%. if that is a pattern (regularity) or happenstance could be measured/evaluated, in the future, by a longer term survey.

4. Is there proneness for a diachronic 100% loyalty?

Do 100% loyal households remain the same in the years? Or is there a proneness for a diachronic 100% loyalty?
From other data stemming from the research program it was found that the market, as an institution, reproduces the share of 100% loyal households, to the surveyed product categories and time limits, in a relatively stable manner. But it was also found that "older" 100% loyal households, are replaced with "new" 100% loyal households. Stated more simply, the occurrence of 100% loyal household is stable in time and product categories, however, its bearers, the 100% loyal households, are different with time and with product categories.
To evaluate the modified hypothesis for proneness for a disynchronised 100% loyalty, out of the whole sample, one can only work with the data subset from the panel that has remained the same for the whole period of the survey, the four years and the six product categories, i.e. those households who have fullfilled their diaries for the entirety of the survey and for each of the product categories. The data shown in table 2 is calculated based on the aforemetioned data subset.
Another thing must be noted before we can go ahead and look at the data. One mustn't forget that level on which the data is measured here is on a product category, not on a brand level, and the specific brands in it. That doesn't mean that when one notices that household X was 100% loyal to a product category, for example for frankfurters in 2009, 2010 and 2011, it was loyal to a single brand. Different combinations are possible: every year the household was 100% loyal to different brands; every year it was 100% loyal to the same brand; the first year the household was loyal to one brand, the next year to another one, the third year it returned to the brand from the first year, etc.

Table 2 Distribution of shares for 100% loyal households by number of years and product categories (in %)

Number of years of 100% loyalty	Frankfurters	Margarine	Toothpaste	Washing detergent	Beer	Coffee	Average
1 year	55,9	45,9	53,3	52,9	54,9	42,6	50,9
2 years	31,6	26,9	28,4	31,7	32,9	27	29,8
3 years	11,1	18,2	15,7	11,8	11	20,6	14,7
4 years	1,4	9	2,7	3,6	1,2	9,8	4,6

The data from table 2 shows the distribution of the 100% loyal households by years and by product categories. It can be discerned that out of all the 100% loyal households in the category of frankfurterste for the entire four year period of the survey, 55.9% were 100% loyal only in a single year. The share of 100% loyal households for two years is 31.6%, for three years 11.1%, and for four years – 0.4%. Out of all 100% loyal households for the entire four year period of the survey in the category of margarine, 45.9% were 100% loyal only in a single year, 26.9% in two years, 18.2% in three years, and 9% in four years.
The data also serves as a base for the conclusion that there is a diachronic 100% loyalty, i.e. some households continue to be loyal to the same product category for more than a year. Out of the 100%

loyal households, between 44.1% (for frankfurters) and 57.4% (for coffee) are loyal to the six product categories for more than one year, from the whole four year span of the survey.
Several things should be noted as well:

- There is a discernable difference in the size of the diachronic 100% loyalty within the product categories. The biggest difference is between coffee and margarine, and the smallest is between beer and frankfurters.
- There is defined pattern (regularity) for a "regression of the loyalty". For each of the product categories the share of the 100% loyal households for a year is sizably larger than the one for two years, which is sizably larger than the one for three years, and so on. When the data is averaged for all product categories the proportion of 51:30:15:5 shows up (see the last column of table 2).

CONCLUSION

In this article two hypothesis were risen to test the so-called loyalty proneness, both of which are modifications of Cunningham's hypothesis, which stated that in some consumers there is proneness for them to be loyal to several product categories at the same time. The first hypothesis states that for some 100% loyal households there is proneness for them to be 100% loyal simultaneously to several product categories within a specified time limit. This type of proneness for 100% loyalty we call sychronic 100% loyalty, because it refers to a simultaneous 100% loyalty to two or more product categories, within a single period of time. The second hypothesis states that for some 100% loyal households there is proneness for them to be 100% loyal to a single product category for two or more consecutive years. This proneness for 100% loyalty we call diachronic 100% loyalty, because it refers to 100% loyalty to a single product category for two or more consecutive years. Based on the data from GFK Bulgaria's Consumer Scan consumer panel, for six product categories and for four consecutive years, on the Bulgarian market, both hypothesis is confirmed.

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EMOTIONAL INTELLIGENCE MEASUREMENT SELECTING

ABSTRACT

In recent decades, the interest of theorists and researchers in emotional intelligence has increased at times compared to that in IQ. Theoretical work has hypothesized that emotional intelligence is more than just cognitive intelligence and is likely measured by methods other than those that consider only IQ. Different authors impose and defend different concepts related to the understanding and study of emotional intelligence. This article presents the time-established, theoretically-based instruments for measuring emotional intelligence level as well as other popular instruments. The theoretical review of the models is not touched upon, but the emphasis is on the questionnaires measuring emotional intelligence and the comparison between them.

KEY WORDS

Emotional intelligence, EI measurement tools, MSCEIT, ESCI, EQ-I, TEIQue

JEL

M 10, M 19

INTRODUCTION

In the years since 1990, the core concepts of emotional intelligence (EI) have been defined and continue to be relevant and underpin the research that is conducted. This time span covers the last three periods distinguished by Mayer. This is when the most popular and scientifically sound models and understandings of EI emerged.

Understanding EI does not lead to a single established way of looking at this concept. Different scholars and researchers advocate different theories about the meaning, components, and measurement of EI, and they integrate their findings into models and to each of these.

KEY MEASURES OF EMOTIONAL INTELLIGENCE

Measuring EI as an ability

This model defines EI as a set of abilities that can be measured using a test composed of questions with correct and incorrect answers.

Measuring emotional intelligence with MSCEIT

John Mayer, Peter Salovey, and David Caruso (2003) first developed a methodology to study emotional intelligence in 2001 (MSCEIT, v1.0). Over time, they refined and improved this methodology, and in 2002 the MSCEIT, v2.0 (The Mayer Salovey Caruso Emotional Intelligence

Test) appeared. There are 141 questions in this test, and they are grouped into 8 sections, two for each of the described ramifications of the model. This methodology is proving to be balanced, consistent and shows good psychometric results, which is why it is gaining wide popularity. The test is still in use today and is promoted as a tool necessary in the selection of quality personnel.

Description of MSCEIT

The constructed test responds to their popular theoretical model and its questions are in four branches. The first examines the perception and expression of emotions, and respondents are asked to identify the emotions on the faces of people shown in a photograph. The second ramification, use of emotions in the thought process, is measured with questions that assess people's ability to describe their emotional sensations with their parallels and other sensory modalities. The third component of the model measures a person's ability to analyse mixed or complex emotions, to understand how emotional responses change over time, and to be able to track the sequence of different emotions. The final component of the model assesses how participants manage the emotions of others and how they regulate their own emotions.

MSCEIT implementation features

MSCEIT scoring is objective in nature, as there are better and worse answers. There are also two types of scoring on this test, which are consensus or expert. Consensus scoring compares the scores achieved with those of a normative set that reflects the responses of over 5000 people from different parts of the world. These responses are collected from a large, heterogeneous sample of individuals. In the other variant, expert norms were obtained from a sample of twenty-one members of the International Society for Research on Emotions (ISRE), who provided their expert judgment on each of the test items.

Mixture models for EI measurement

This is a concept of emotional intelligence proposed by Daniel Goleman, and by Reuven Bar-On. They consider as components not only cognitive abilities and emotional states, but also motivation, nonverbal dispositions, personality traits, and personal and social skills. The combination of personality traits, abilities, and behavioral patterns of social adjustment, according to many authors, can be defined as an appropriate basis for constructing "mixed" models of emotional intelligence.

Daniel Goleman's ECI model

EI measurement tools based on Goleman's theoretical model have undergone significant changes since their inception and have improved over time. The *Emotional Competence Inventory* (ECI) is built on competencies that allow a person to demonstrate intelligent use of their emotions in managing themselves and working with others to be effective at work (Boyatzis, Goleman and Rhee, 2000). At the time of its creation, existing assessment methods, such as simulations and interviews, in assessment canters no longer provided accurate information. The methodology was designed for ease of use and so that a specific measurement tool could be used for elements of the theoretical model. This also enables individual results achieved in completing the questionnaire to be objectively compared with the results of others.

Description of ECI

In designing their questionnaire, the authors Richard Boyatzis and Daniel Goleman used an existing competency assessment questionnaire created by Boyatzis in 1991 called the Self-Assessment Questionnaire (Boyatzis, 1994). The authors redesigned some of the questions to address the non-cognitive abilities included in the model and so make up about 40% of the new methodology and the remaining 60% are from entirely new questions (Spenser and Spenser, 1993). The subsequent validation of the methodology involved 596 respondents from different fields of work - managers,

sales engineers etc. Based on the reliability analysis and correlations from the results obtained, the components were revised.
In 1999, a version of the ECI was published, with the participation of researchers from the Hay/Mcber Group, who contributed their experience gained after numerous studies in the field.
The theoretical understanding of EI, the subsequent initial empirical model and the current measurement model also have some differences between them. In the theoretical model, the components under study are divided into five groups, in the initial model three, in the subsequent model and in the current empirical model four.
Despite the efforts of the authors, the ECI methodology has some major drawbacks that can be avoided. These include:

- The methodology can be assessed as reliable, but in the data presented after the validation, there are very high correlations between some of the competency groups. This leads to a loss of differentiation and threatens to perceive the concept of EI as a collection of disparate components rather than a unified assessment system.
- The validity of the test is also uncertain in the presence of the above.
- The test contains too many questions (110), which requires a lot of time to complete the whole questionnaire and leads to reluctance.

These may be some of the reasons that led to the revision of the methodology and the creation of ECI 2.0. The new instrument measures 18 competencies divided into four groups as follows:

- Self-awareness - knowledge of inner states, preferences, resources and intuitions.
- Self-management - management of internal states, resources and impulses.
- Social engagement - focuses on how people relate to each other and how aware they are of the feelings, needs and concerns of others.
- Relationship management - the skill of eliciting desired responses from others

The Likert scale used for the input of the answers has also changed from the seven- grade scale used in the first version of the methodology to a six-grade scale. The number of questions in the two versions of the model also differ. The ECI v1.0 has 110 items rated on a seven-point Likert scale and the ECI v2.0 has 72 items. The ECI v1.0 consists of 20 dimensions (referred to as competencies) organized into 4 clusters, while the v2.0 consists of 18 competencies.
The development of the instrument undergoes further changes. The reason for this is the authors' distinction of social from emotional intelligence. The Emotional and Social Competence Inventory (ESCI) is created to assess competencies that distinguish exceptional from average performers. The ESCI measures the behavior of individuals through their perceptions and the perceptions of those assessing them, distinguishing it from EI measures that assess ability or personality traits. Scores show participants how others perceive their behavior in terms of the consistency with which they demonstrate emotional and social competencies. The competencies are reduced to 12, grouped into 4 factors. Changes in the dimensions on which they are scored and their grouping are discussed in *Table 1*.

Table 1 Comparison between EC11.0, ECI 2.0 and ESCI

Cluster	ECI 1.0 Competency	ECI 2.0 Competency	ESCI Competency
Self Awareness	Emotional Self-Awareness	Emotional Self-Awareness	Emotional Self-Awareness
	Accurate Self-Assessment	Accurate Self-Assessment	
	Self-Confidence	Self-Confidence	
Self Management	Self-Control	Emotional Self-Control	Emotional Self-Control
		Transparency	
	Trustworthiness		
	Conscientiousness		

	Adaptability	Adaptability	Adaptability
		Optimism	Positive Outlook
	Achievement Orientation	Achievement	Achievement Orientation
	Initiative	Initiative	
Social Awareness	Empathy	Empathy	Empathy
	Organizational Awareness	Organizational Awareness	
	Service Orientation	Service Orientation	Organizational Awareness
Relationship Management	Developing Others	Developing Others	Coach And Mentor
	Leadership	Inspirational Leadership	Inspirational Leadership
	Influence	Influence	Influence
	Communication		
	Change Catalyst	Change Catalyst	
	Conflict Management	Conflict Management	Conflict Management
	Building Bonds		
	Teamwork And Collaboration	Teamwork & Collaboration	Teamwork

Source: Own

EQ-I Model by Ruven Bar-On

The theoretical Bar-On model is the basis for the creation of the Emotional Quotient Inventory (EQ-I), which is also the main research tool to this model. The EQ-I is a self-report based methodology that determines the level of emotional and social intelligence. The EQ-I was the first psychological test of its kind at the time of its publication (Bar-On, 1997) that indicates the level of subjective emotional and social intelligence and reveals features of socially competent behavior of an individual. There are five components that the author includes in his theoretical model (*these scales are illustrated in Table 2*):

1. Intrapersonal skills (including self-esteem, emotional self-awareness, self-actualization, independence and self-worth);
2. Interpersonal skills (including empathy, social responsibility and interpersonal relationships);
3. Stress management skills (including tolerance of stressful situations and controlling one's own impulsivity):
4. Adaptability skills (including flexibility and problem-solving abilities);
5. General mood (including qualities that maintain optimism and happiness).

Description of EQ-I

This method contains 133 items in the form of short statements, with respondents using a five-point Likert scale with limits ranging from "this does not apply to me" to "this is completely true for me." According to the author, the test takes about 40 minutes to complete and is suitable for individuals 17 years of age and older. Five components were identified in the theoretical model, and for research purposes they were decomposed into 15 scales distributed as follows in the table.

Measuring Trait EI

In 2000, Adrian Furnham and Konstantin Petrides presented an in-depth analysis of the various existing models of emotional intelligence, following the conceptual framework that emotional intelligence is a personality trait and attempting to prove the validity of this thesis. They conceptually confirm the distinction between models of emotional intelligence as a capability, mixed models of

emotional intelligence, and the assumptions about emotional intelligence as a personality trait that have been slow to enter scientific circles.

Table 2 I scales and what they assess

EQ-I Scales	The El Competencies and Skills Assessed by Each Scale
Intra personal	Self-awareness and self-expression:
Self-Regard	***To accurately perceive, understand and accept oneself.***
Emotional Self-Awareness	***To be aware of and understand one's emotions.***
Assertiveness	***To effectively and constructively express one's emotions and oneself.***
Independence	***To be self-reliant and free of emotional dependency on others***
Self- Actualization	***To strive to achieve personal goals and actualize one's potential***
Interpersonal	Social awareness and interpersonal relationship:
Empathy	***To be aware of and understand how others feel.***
Social Responsibility	***To identify with one's social group and cooperate with others.***
Interpersonal Relationship	***To establish mutually satisfying relationships and relate well with others.***
Stress Management	Emotional management and regulation:
Stress Tolerance	***To effectively and constructively manage emotions.***
Impulse Control	***To effectively and constructively control emotions.***
Adaptability	Change management:
Reality-Testing	***To objectively validate one's feelings and thinking with external reality.***
Flexibility	***To adapt and adjust one's feelings and thinking to new situations.***
Problem-Solving	***To effectively solve problems of a personal and interpersonal nature.***
General Mood	Self-motivation:
Optimism	***To be positive and look at the brighter side of life.***
Happiness	***To feel content with oneself others and life in general.***

Source: (Monselise et al, 2013)

EI measurement with TEIQue

Originally, the authors Petrides and Furnham revised Schutte's emotional intelligence measurement scale (Schutte et al., 1998) and added it to the Bar-On method (EQ-I). Subsequent (Monselise et al., 2013) unsatisfactory research results with the Bar-On method have raised questions about the psychometric properties and validity of the method. With the idea of developing it further to improve its psychometric qualities, the authors added a new scale to the core scales, which they called "emotional power," as well as several items relating to the ability to identify and regulate the emotions of others. In a number of verifications of a modified version of the Bar-On method, Petrides and Furnham report some weaknesses in psychometric measurement. Analysing the strengths of some of the components, eliminating others, adding new items, and creating the first version of a questionnaire about emotional intelligence as a personality trait, the Trait Emotional Intelligence Questionnaire TEIQue (v. 1.00), which consists of 144 questions (Petrides and Furnham, 2001).

TEIQue is conditioned by the theory and model of EI, the concept of which is based on individual traits localized at the lowest level of the hierarchy of individual traits. The subsequent validation of the instrument, which lasted several years, aimed to verify the validity of the method and to compare it with other personality methods. Subsequently, after repeated measurements and additions of new

items, they refined the first version of the method and thus created the TEIQue method (v. 1.50), which is the full version of a comprehensive multidimensional personality test. The method contains 153 items constructed in 15 subscales, which are grouped in 4 scales - "Well-being", "Self-control", "Sociability" and "Emotionality". As described by the authors, the method's items aim to measure an individual's assessment of the effectiveness of the beliefs by which he or she perceives, processes, and uses information related to emotions in everyday life. The TEIQue method (v. 1.50) is constructed as a self-report personality questionnaire.

ALTERNATIVE METHODS FOR MEASURING EI

Objectivity and reflecting on the subject in full, it is necessary to specify that there are not a few instruments for measuring emotional intelligence. Currently, more than 30 different widely used measures of EI have been developed (O'Connor et al., 2019) and new ones continue to be proposed. There are also those whose authors are based on findings derived and described by established researchers in the field, and as a consequence do not contribute to theoretical understandings, but rather use existing models to develop their own measure. It would be difficult to cover in detail all possible measures, so some of the more popular ones will be mentioned. As alternative instruments for measuring EI the following can be mentioned:

- **Trait Meta-Mood Scale (**TMMS) – one of the first measures of EI, based on the original Salovey and Mayer model (Salovey, Mayer and Goldman, 1995). EI research using the TMMS can be thought of as measuring the attention we pay to our emotions, the clarity with which we distinguish between different emotions, and our confidence that we can control them (restore our good mood) (Salovey et al., 1995). The TMMS assesses an individual's relatively stable attitudes toward and control over their feelings.
- **The Schutte Emotional Intelligence Scale (**SEIS) or Self Report Emotional Intelligence Test (SREIT) – has between 3 and 4 factors, with the main drawback being that it provides incomplete coverage of EI, relying heavily on the three dimensions postulated in the original 1990 Salovey and Mayer model (Schutte, Malouff and Bobik, 2001). However, it is used extensively in the literature as it is one of the few free instruments but can be defined as a parsimonious measure of overall EI.
- **Workgroup Emotional Intelligence Profile (**WEIP-3) – a measure designed to examine the EI of individuals in workgroups. Early research shows that teams possessing high levels of EI tend to perform better than teams with low (Jordan, Ashkanasy and Hartel,2002).
- **Emotional Intelligence Self-Regulation Scale** (EISRS) – based on the Martinez-Pons (2000) model of EI self-regulation, which integrates Bandura's theory of social cognition and the original Salovey and Mayer model.
- **The Dulewicz & Higgs Emotional Intelligence Questionnaire (**DHEIQ) – is based on books by Goleman and is designed for use in organizational settings (Dulewicz and Higgs, 2001).
- **Sjoberg Personality Test Battery** (SPTB) – an extensive instrument measuring many different individual constructs and aspects, including emotional intelligence. The comprehensive toolkit (full version) includes 789 items corresponding to the 7- point Likert scale, grouped into 21 scales (Sjöberg, 2001).
- **Work Place Swinburne University Emotional Intelligence Test** (*Work-place SUEIT)* – is a concept measure designed for use in the workplace. It derives a total score by scoring five empirically defined subscales: 'emotional recognition and display', 'understanding emotions', 'direct knowledge of emotions', 'managing emotions' and 'emotional control' (Palmer, and Stough, 2002).
- **Wong & Law Emotional Intelligence Scale** (WLEIS) – designed to quickly measure EI for use in organizational research. The WLEIS is a self-report measure that consists of 16 items to measure EI based on Mayer and Salovey's revised model. The authors report good internal consistency and reliability of their measure (Wong and Law,2002). In terms of validity, they present data showing that WLEIS scores are related to job performance and job satisfaction.
- **The Genos Emotional Intelligence Inventory** - Genos EI was created in 2008 by researchers at Australia's Swinburne University. They maintain that no model exists that is applicable to

workplace practice and serves as a tool to be used by human resource professionals (Gignac, 2008). It is with this in mind that they created their model, as specifically designed for use by HR professionals, aimed specifically at the work environment and issues related to it. The Genos EI inventory, is not designed to measure EI according to traditional understandings, but takes an entirely different approach to the concept of measuring it. The model focuses on the frequency with which an individual display emotionally intelligent behavior and the extent to which it is characteristic of that individual. The reason for the changed focus of the model, the creators defend, is that organizations are more interested in how much emotionally intelligent behavior is characteristic of a particular individual in the organization than in achieving a single, albeit high, score. The six emotionally intelligent competencies of the Genos model are Self-Awareness, Awareness of Others, Authenticity, Emotional Reasoning, Self-Management, and Positive Influence (Gignac, 2019).

- Geneva Emotional Competence Test (GECo) by Schlegel and Mortillaro (2018) is an online-only performance-based test to measure individual differences in emotional intelligence in the context of the workplace and organizations. GECo defines 4 central competencies: Emotion Recognition; Emotion Understanding; Emotion Management and Emotion Regulation. The GECo test is designed specifically for the workplace and organizations and the 110 items include 42 short video clips.
- The Six Seconds Emotional Intelligence Assessment (SEI) is unique in that it focuses on the application of emotional intelligence, offering a framework for a process of putting emotional intelligence into action (Freedman et al., 2005). The toolkit was developed by an international team and is available in 26 different languages. The model consists of eight core competencies divided into three key aspirations - Know Yourself (self-awareness); Choose Yourself (self-management) and Give Yourself (self-direction).
- The Profile of Emotional Competence (PEC) was developed by Brasseur and Mikolajczak (2013) to measure intrapersonal EI and interpersonal EI separately. It assesses the five core emotional competencies (identification, understanding, expression, regulation and use of emotions) separately for one's own emotions and for the emotions of others. There is also a short form in which the 50 questions are reduced to 20, but only total EI is reported.

Some of the mentioned tools fail to establish themselves over time remain presented and researched mainly by their authors. Genos EI faces serious criticism due to the discrepancy between the understanding of the generally recognized names in this field and the innovative idea of the authors. Criticism can also be levelled at some of the other models. The TMMS does not fully cover the concept of emotional intelligence, the DHEIQ has not been used much in the scientific literature and there is very little information about its reliability and validity, and the EISRS is not known to be a validated scale in the scientific literature (e.g. Pérez et al., 2005). Further information on the instruments regarding their reliability, structure, items, etc. is provided in the comparative Table 3.

Table 3 Overview of the El measures

Measure	Authors (year)	Cronbach alpha	Factors, domains / facets, competencies	Structure	Statements / questions included	Likert scale
TMMS	Salovey Mayer Goldman Turvey Palfai (1995)	0,70-0,85	3	Attention to Feelings, Clarity in Discrimination of Feelings, Mood Repair	48 / 30 / 24*	5-point

EQ-I 1.0 / EQ-I 2.0	Bar-On (1997 / 2000)	Generally good (about 0,85)	5/15	Intrapersonal Interpersonal Stress management Adaptability General mood	133 / 125	5-point
SEIS / SSEIT	Schutte (1998)	0,70-0,85	3	Appraisal and expression of emotion Regulation of emotion Utilization of emotion	33	5-point
ECI 1.0 ECI 2.0	Boyatzis, Goleman (1999 / 2002)	0.70–0.85 / 0,68-0,87	4/20 4/18	Self-awareness Social awareness Self-management Relationship management	110 / 72	7-point / 6-point
EISRS	Martinez-Pons - (2000)	0,75-0,94	4/11	Motivation Goal Setting Strategy Self- Evaluation	52	7-point
DHEIQ	Dulewicz&Higgs (2001)	Low to moderate (0.54-0,71)	7/	Self-awareness Emotional Resilience Motivation Interpersonal Sensitivity Influence Intuitiveness Conscientious	69	-
MSCEIT	Mayer-Salovey-Caruso (1997 / 2002)	Better for Version 2 than Version 1 (0.68–0.71)	4/8	Perceiving emotions Facilitating thought Understanding emotions Managing emotions	141	5-point
TEIQue	Petrides & Furnham (2001)	Generally good (about 0.85)	4/15	Well-being Self-control Emotionality Sociability	153	7-point
SPTB	Sjöberg (2001)	0,70-0,85	4 / 21		789	4-poin
MSCEIT	Mayer-Salovey-Caruso (1997 / 2002)	Better for Version 2 than Version 1 (0.68–0.71)	4/8	Perceiving emotions Facilitating thought Understanding emotions Managing emotions	141	5-point
TEIQue	Petrides & Furnham (2001)	about 0.85	4/15	Well-being Self-control Emotionality Sociability	153	7-point
SUEIT	Palmer, Stough (2002)	Generally good (about 0.85)	5/	Emotional Recognition and Expression Understanding Emotions External Emotions Direct Cognition Emotional Management Emotional Control	64	5-point

WEIP-3	Jordan Ashkanasy Härtelb Hooper (2002)	0,70-0,85	2 / 7	Ability to Deal with Own Emotions Ability to Deal with Others' Emotions	30	7-point
WLEIS	Wong, Law (2003)	0,70-0,85	4 /	Self-emotion appraisal Others' emotion appraisal Use of emotion Regulation of emotion	16	5-point
TEIQue - SF	Petrides & Furnham (2004)	0.83- 0.93	4 /15	Well-being Self-control Emotionality Sociability	30	7-point
SEI	Ghini, Freedman, Jensen 2004		3/8	Self-awareness Self-management Self-direction	104	5-point
ESCI v1 ESCI v2	Boyatzis, Goleman (2007 / 2011)	0,73 – 0,92	4/12	Self-awareness Social awareness Self-management Relationship management	68	5-point
PEC	Brasseur and Mikolajczak (2013)	0,72 – 0,92	2 / 5	Intra-personal EI Inter-personal EI	50	5-point
GECo	Schlegel & Mortillaro (2018)		4	Emotion recognition Emotion understanding Emotion management Emotion regulation	110	correct or wrong response

**depending on the instrument version*

Source: based on information from http://www.eiconsortium.org/measures/measures.html; https://psychometriclab.com/publications/ and and the sources cited in the text

As a serious drawback, it is sometimes interpreted that EI as a personality trait is related to the foundations of primary personality dimensions and does not always contribute to the gradual prediction of criterion variance (MacCan et al., 2004). This critique should be put in perspective by emphasizing once again that conceptualizing EI as a lower personality trait will eventually influence it to be related to higher personality dimensions (Petrides and Furnham, 2001). Indeed, it would be quite strange if a lower personality construct, were unrelated to higher personality dimensions that determine the factor of the space it occupies. It is true, as researchers have repeatedly noted, that no type of EI reflects the expectations constructed in the literature (Cooper, 1997). However, it is also true that discriminant and partial structure validity are beyond any empirical doubt (Saklofske et al., 2003).

A related issue is the modelling domain on which the various measures of EI (as a capability and as a personality trait) are based. The first step in operationalizing the psychological structure involves defining the items that comprise this domain. Virtually all EI models, questionnaires, and tests have skipped this step, suggesting arbitrarily chosen domains. In the vast majority of cases, the inclusion or exclusion of aspects is the result of unproven or arbitrary processes. Also noteworthy is the fact that many of the facets may sound different but are functionally the same. On the elements they cover, the different EI models are complementary rather than contradictory (Ciarrochi, 2000).

CHOOSING A MEASUREMENT FOR EI

The elements that comprise the different models of emotional intelligence are complementary rather than contradictory. Also noteworthy is the fact that many of the aspects may sound different but are functionally the same. Furthermore, the major models of EI share quite a few major aspects, although they also include aspects that are not central to the structure.

Goleman never substantiated his theoretical grounds for the membership of the abilities in the structure of emotional intelligence in his original models. He confined himself to interpreting competence merely as the individual's ability to operate with his emotions in a situationally appropriate way in order to integrate into the social environment. For this reason, he defines this kind of abilities as social competencies and includes them in the structure of emotional intelligence. There are obvious flaws in his position, and one of them is that, according to him, emotional intelligence is present when a person demonstrates certain competencies. Competence, on the other hand, can be viewed by not addressing emotional-affective but rather cognitive-content components. In this direction, it is adequate to understand why early proponents of the idea that emotional intelligence is a type of social competence associated it primarily with cognitive mastery of the external environment and enhancement of adaptive capacities of mental regulation. However, the model has great popularity and a measurement methodology based on this model can be included as one of the main alternatives in selecting an approach.

CONCLUSION

It is clear from the comparative analysis that the debate in the scientific literature continues to be between models viewing EI as an ability and as a personality trait. The choice of approach should be limited to a few basic instruments. It is logical in this situation that the described derivations of the basic models should be considered situationally if desired by those applying the methodology. If they are interested in a broader set of emotion-related and social-related dispositions and competencies probably a mixed measure would be the most appropriate. If the researchers/practitioners are interested in measuring behavioral tendencies and/or emotional self-efficacy a trait measures of EI be should selected (O'Connor, 2019). When both abilities and traits are important, then both ability and trait measures might be chosen.

Other criteria can be identified that would influence the choice of an approach to study emotional intelligence. The main such criteria would be the accessibility of the methodology; whether overall EI is important or the results on individual items are relevant; whether it is adapted to the language; the time required to conduct the survey; the reliability of the results obtained; the subjective understandings of theoretical models of EI by the person making the choice; the limitations of third party choice, etc.

For some of the tools, it is worth noting that they do not yet have cross-language adaptation, and consequently there are certain limitations in their willingness to be used. In order to make a qualitative adaptation, experts with in-depth knowledge of the respective foreign language and of course in psychology are needed in order to be able to form the questions as correctly as possible.

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GLOBAL CATASTROPHES IN A GLOBALIZING WORLD

ABSTRACT

This article is devoted to the critical points in the realization of the ongoing processes of globalization, which outline the problem field for human development and the course of global development processes. The paper comes to conclusions about the emerging responsibilities of society to the processes of global development and modeling of the development of individual geographical regions, in terms of the ongoing global processes at the local level and the implementation of actions in this sphere. An attempt is made to show the processes and phenomena that have a detrimental impact on development and will have a brutal effect on planetary development. In addition, the needs for change are related to objectively highlighting the territorial prerequisites and promoting the regional factors and geographic features of globalization, as well as to retain and further expand the already functioning businesses related to the irrational use of natural capital, and to attract new investments to overcome the ecological deficit of society.

KEY WORDS

ECOLOGY, CHANGE, MANAGEMENT, NATURE, COMPLEX, DEVELOPMENT

JEL

F01, B40, D23, F18

INTRODUCTION

Our planet Earth has always been subject to natural and socio-economic changes. Today, in the global world of technology, the principles of a sustainable natural environment are linked to overcoming the geo-global natural-geographical problems caused by the interrelations of man and nature, his responsibilities towards himself, the natural environment and natural resources.

Since the second half of the twentieth century, human society has found itself face to face with numerous serious problems, among which is the predatory exploitation of the resources of the natural environment by human society itself. Humans for the first time saw their planet from space and how small and fragile it was and the prevailing picture of natural formations - oceans, seas, continents, soils, vegetation. Human activity, which so far does not fit into this picture, is the main cause of significant changes in the planetary system.

Global catastrophes are associated with events of a sudden nature that take place within the range of our planet and have a large deviation from their average manifestation. They have a negative impact on the economies of countries and the safety of populations. They are characterised by their great

destructive power and destructive effect, which far exceed the ability of human society to mitigate or prevent their negative impact.
By definition, a catastrophe (from Latin catastrophe) is an unexpected misfortune; a calamity; an event with tragic consequences; a disastrous end, a disastrous conclusion . Global catastrophes are therefore events that cause many casualties or damage to the health of large numbers of people, affect the whole of human civilization and recognize no boundaries, and no single country can cope with them alone[1].

Any classification of global catastrophes on Earth is very tentative. Most often a combination of many factors of different nature leading to catastrophic consequences is used. There is no such thing as a ranking of all the bad things that could happen to all of us, but if there were, global catastrophe would probably be at the top. To the global catastrophes that threaten us now and in the foreseeable future we can with good reason include the evolution of the stars in the universe, the asteroid threat, and rogue artificial intelligence that can cause catastrophic destruction[2].
These sorts of terrible things (defined as events or processes) that would lead to the deaths of roughly 1/10th of the world's population or have similar impacts may only be hypothetical for now, but that doesn't mean we shouldn't recognize them, study them, assess their causes and risks, and do everything in our power to prevent them.

NEW TRENDS IN PLANETARY ENVIRONMENTAL PROCESSES

Astrophysicists who study the evolution of stars, taking into account the irreversible nuclear changes taking place in the interior of stars, believe that with the diminishing supply of hydrogen in its interior, the Sun will become progressively hotter in the future. This trend will make the Earth's surface so hot that water in the oceans will evaporate and the atmosphere will dissipate into interplanetary space. The charred surface of the planet will be exposed to scorching heat and no life form could survive it[2]. This would mean that climatic extremes on Earth would reach or even surpass those prevailing today on the planet Mercury, where no one would even think of looking for any sign of life. Neither we nor the other planets could do anything to save us from the Sun's farewell fiery embrace. The only consolation in this pessimistic outlook is the fact that this sad end is still very far in the future. It is likely to be another five to seven billion years before sunlight turns from benevolent friend to ruthless foe. Events will perhaps accelerate if the planets move closer to the Sun as time passes, or slow down if the planets move slowly away at the behest of the inexorable laws of celestial mechanics [3].
On the Sun there are constant explosions and discharges of plasma into space. The probability of an explosion leading to a global catastrophe on earth is estimated at about 12%. The last strong plasma release occurred in 1989, and one of the most powerful magnetic storms was recorded on Earth. Massive disruptions to power grids around the world were the aftermath of this magnetic storm. The year 2020 marked the beginning of our star's 25th solar cycle. We are currently at the low point of the changes. There is a lull like this every 11 years.
According to the Global Catastrophic Risks Report 2021 by the Swedish Global Challenges Foundation, the most likely global catastrophes that could happen in the next few years are also questioned in advance planning to prevent a catastrophe and studying the next global risks. The survival of human civilization near a black hole formation is identified as such[4]. The night sky may appear calm but, in reality, cataclysms are constantly occurring throughout the cosmos. Among the most extreme of these are gamma-ray bursts (GRBs). These occur when old stars collapse to form black holes. The amount of energy released is enormous. In no more than a few minutes, an amount of energy equivalent to that released by the Sun over its 10 billion-year existence is ejected in concentrated beams of high-energy radiation called gamma rays. What might happen to our planet if the Earth were hit by such a powerful beam of radiation? Direct damage would be limited because the Earth's atmosphere would weaken the GRB beam significantly. A brief pulse of a dangerous ultraviolet beam (UV radiation) would reach the Earth's surface, but widespread damage would be prevented. The GRB beam, however, would be catastrophic to the stratosphere (the layer 10 to 50

km above the Earth's surface where there is a high concentration of ozone), ultimately wreaking havoc on the Earth's surface[4].

The main destructive effects are caused by gamma rays, which ionise and dissociate nitrogen and oxygen molecules in the stratosphere, forming ozone-destroying nitrogen compounds. The subsequent destruction of the ozone layer will lead to increasing levels of solar ultraviolet radiation reaching the Earth over several years. It damages DNA, leading to the destruction of life forms, for example through developmental abnormalities and cancer. Surface marine inhabitants, such as plankton, which are critical to the food chain and global oxygenation, will be threatened. A secondary effect will be smog-like nitrous oxide gas, which is produced in the stratosphere and will reduce the amount of visible sunlight reaching the Earth's surface. Although the reduction in visibility is expected to be small and to last for several years, it could lead to global cooling at the extinction level if the climate system has already reached its tipping point.

But the chance of the GRB beam threatening life on Earth is still minimal. All the outbursts observed so far have occurred far outside our galaxy. Consequently, the GRB beam is weak and has little effect, if any, on Earth's atmosphere[5]. Understanding the risk associated with GRBs is possible through curiosity-driven research, which seeks a deeper understanding of the world without providing a specific application. This leads to a better understanding of habitable zones in galaxies in general, which informs the search for extraterrestrial life .

Only 10% of all galaxies may be hospitable to life. The low-density regions of galaxies are favourable as conditions are not conducive for GRB beam formation. It is reassuring that the solar system is in just such an environment [5].

Towards the lower risk global catastrophes is the asteroid collision hazard. An asteroid is a small planet-like celestial body in orbit around the Sun. Asteroids are also considered to be minor planets, with sizes much smaller than those of the actual planets. The exact definition of an asteroid has not yet been fully clarified, but relative to their size, asteroids are bodies larger than 50 m in diameter, unlike meteorites (solid bodies of extraterrestrial origin ranging in size from a few mm to several m). Large space objects include asteroids more than 1 km in diameter. There are about 120 very large asteroid craters known on our planet. Asteroids can reach the Earth's surface almost unimpeded, unlike meteorites, which explode when they enter the Earth's atmosphere. They are composed mostly of rocks and metals.The asteroid that killed the dinosaurs 65.5 million years ago is about 10 km across. The fall to Earth of a cosmic body with a diameter of 90 km is absolutely guaranteed to end life on the planet. Many scientists have developed theories that the mass extinction during the Cretaceous and Tertiary periods was caused by one or more catastrophic events, including a massive asteroid impact or increased volcanic activity[6].

In 1980, a team of scientists led by physicist and Nobel laureate L. Alvarez discovered that sedimentary layers from the Cretaceous-Tertiary boundary all over the world contained iridium in concentrations many times higher than normal. Because iridium is present in abundance in most asteroids, Alvarez's team speculated that it was an asteroid impacting Earth .

With growing acceptance of L. Alvarez's theory of the extinction of the dinosaurs and the 1994 collision of the comet Shoemaker-Levy 9 with the planet Jupiter, increasing attention is being paid to the question of identifying asteroids whose orbits cross Earth's and which are likely to collide with Earth in the future. Since 1998, highly efficient automatic asteroid detection and observation systems have been introduced, equipped with cameras and computers directly linked to telescopes[7].

It is no coincidence that the Global Catastrophic Risks Report 2021 includes asteroid impacts among the 10 major risks identified. The largest of these (over 1 km in diameter) have the potential to cause geological and climatic impacts on a global scale, threatening all of human civilisation. Smaller asteroids (in the 140 m to 1 km range) could cause regional to continental destruction, potentially killing hundreds of millions of people.

Relatively smaller objects also pose a serious threat to the Earth, as their blasts to populated areas as a result of the shock wave and heating could cause significant destruction commensurate with the damage of an atomic blast. By just one coincidence, the one that fell in an uninhabited area in 1908.

The Tunguska meteorite (one of the most mysterious phenomena of the 20th century) did not cause such consequences. A giant orb flew over a vast area of Siberia between the Lower Tunguska and Lena rivers, its flight accompanied by sound and light effects and ending with a powerful explosion that devastated the taiga forest and destroyed wildlife. In the following nights, the skies over southern Siberia, Central Asia and almost the entire continent of Europe are illuminated in bright and unusual colours that have gone down in history as 'the bright nights of the summer of 1908'. In 2013, a meteorite with a diameter of about 17 m and a weight of about 10 thousand kg was found. It entered the Earth's atmosphere above the town of. It disintegrated into a large number of fragments. The Chelyabinsk meteorite became the largest celestial body to fall to Earth since the Tunguska meteorite. Asteroid studies continuing since the 1990s have discovered more than 26 thousand asteroids of various sizes by the end of 2021 . The key factors influencing risk levels are related to the probability of a collision with Earth, the size and composition of the asteroid, and the location on Earth where the event will occur.

In September 2022, the asteroid is expected to be on the Earth's surface. NASA conducted an unprecedented, world-first test of planetary asteroid defenses. NASA's Double Asteroid Redirect Test (DART) spacecraft crashed into the asteroid Dimorphous about 11 million km from Earth. The mission was designed to determine if a spacecraft could alter the trajectory of an asteroid through sheer kinetic force, pushing it off course enough to keep Earth out of danger.

Scientists hope the method can be used to push asteroids and prevent cataclysms. With vigilance and advance warning, an asteroid impact is a devastating disaster that can be prevented.

The International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG) provide mechanisms at the global level to address the global challenge posed by asteroids, including detection, tracking and impact risk assessment, and subsequently planetary protection measures such as civil defence and asteroid diversion.

The category of emerging risk threats to global catastrophes must include malicious artificial intelligence. It may not seem like an immediate source of concern. However, we must remember that the challenges that are widely recognised as the greatest and most significant today - climate change and nuclear weapons - were unknown only 100 years ago, and a delayed response as in the case of climate change has increased the level of risk significantly.

Human intelligence has led to human society's greatest successes, but it is also behind some of the greatest catastrophes. What would happen if we created an artificial intelligence that was significantly more intelligent than any human on the planet. Could it help us achieve even more remarkable successes, or would it trigger the emergence of the greatest catastrophe: the extinction of human civilization[7].

Modern artificial intelligence systems already outperform humans in the tasks for which they are trained, especially in terms of the speed at which they act. In just a few seconds, an AI system can reproduce the winning move in a chess game, translate an article, or plot a route to a destination by taking into account current traffic patterns. Despite the fact that it takes longer for each person to perform any of these actions, a key aspect of human intelligence is the fact that we can perform all of these tasks i.e. we have general intelligence. While AI systems can only perform the tasks they are programmed to do, humans can learn from experience and develop new skills and competencies or solve new problems.

Many experts worry that if an AI system achieves human-level general intelligence, it will quickly surpass us, just as AI systems have done with their narrow tasks. At this point, we don't know what artificial intelligence will do[8].

First, it is important to note that experts are not worried that artificial intelligence will suddenly become psychopathic and start randomly hurting or killing people. Instead, experts fear that AI programs will either be used intentionally to cause harm or will be too competent at a task that turns out to be ill-defined .

Artificial intelligence researchers are racing to find ways to prevent the spread of fake news, as well as with the emergence of blatant fakery, in which programs alter what is seen or heard in a video. At

the same time, artificial intelligence systems deployed with the best of intentions to identify images, review job applications, have inadvertently increased institutional requirements, putting jobs at risk and exacerbating inequality. It is not hard to imagine how dangerous advanced AI systems can become, operating across multiple platforms or falling into the hands of terrorists or despots. The world-renowned robotics professor N. Sharkey believes we have reached a stage in the development of artificial intelligence where we have created robots that may decide to get rid of their creators. "We are moving rapidly towards a revolution in robotics and we don't think about the myriad unpredictable problems that pop up under our noses. The time has come to take a step back, and we need to think about the future of technology before we've had enough of it" .

Until recently, robots were mostly applied in the manufacturing sector (mainly in industry), but the situation in a globalising world has changed rapidly with the automation of the service sector (service industry). Today, there are around 12 million robots in operation worldwide, while their industrial counterparts number only 1.3 million. The International Federation of Robotics predicts that by the end of 2022, the number of smart machines in the service sector will reach 31 million robots. According to H. Christensen, director of the Center for Robotics and Artificial Intelligence Machines at the Georgia Institute of Technology in the US, we will need to have ethical norms that allow for normal interaction with robots without crossing the line of what is allowed. It is no coincidence that the UK government is preparing a document on the status of robots in 2056, in which, if artificial intelligence becomes ubiquitous, there may be calls to grant them rights on a par with humans[6],[7] и [7].

CONCLUSION

It is undeniable that significant resources are being devoted to developing the potential of these technologies, but very little is being devoted to mapping and managing the new hazards they bring. As the pace of technology development cannot be expected to be linear, and given our limited knowledge and resources, more and more experts from around the world are calling for proactive action on these risks today. Science fiction often portrays AI systems as humanoid robots, but the AI systems we interact with in our daily lives are usually algorithms running in the background of some program we use. They work so seamlessly that people outside of the AI world often don't even realize they're just interacting with an AI. For now, these programs can only perform these narrow tasks. But it is generally accepted that we will be forced to create AI systems capable of performing most tasks like any human. According to the average expert surveyed, there is approximately a 50% chance of such artificial intelligence by 2050. Despite their size, the risk of global catastrophes such as the evolution of the stars in the universe, the asteroid hazard, and rogue AI is receiving less attention. One reason is that many of these risks are unlikely in any decade of the 21st century. But even when the likelihood is small, the obvious significance of these harmful impacts threatening the survival of human civilization demands that these risks be taken extremely seriously. Reducing the risks of global catastrophes is both a global and intergenerational public good.

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CHALLENGES FOR HIGHER EDUCATION IN THE CONTEXT OF GLOBALISATION

ABSTRACT

This article is devoted to the problems of education as a factor for improving the competitive environment in the processes of global development. It focuses on the problems of higher education and technology development. The paper argues for the need for basic guidelines for understanding and practicing global education, and also as a pedagogical tool to help establish approaches to global education where they do not exist and to enrich existing ones. The content of these basic guidelines has been constructed taking into account existing practices and relationships in educational service development. There is an opportunity to discuss particular aspects of global education as the Global Education Guidelines reflect the perspectives of many stakeholders. It has also been a challenge and at the same time an enriching process to incorporate different and often opposing views into the proposed guidelines.

KEY WORDS

GLOBALIZATION, DEVELOPMENT , EDUCATION, CULTURE, MODEL AND GOVERNANCE

JEL

I20, I23, M16, O33

INTRODUCTION

One of the characteristic features of modern society is the increasing influence of globalisation processes. They are making their mark on economic, political and cultural life and contributing to the formation of new globalisation values. This is being done with the crucial role of education, which is shaping the moral and cognitive potential of future generations.

The ever-narrowing boundaries between the economic, cultural and political differences of individual countries are helping to shape common ideas about educational goals and the pathways to achieving them. The main priority is to place education in the context of the global society and to relate it to qualifying people for successful and responsible lives in the global age.[1] . **Global education is an educational perspective based on the fact that modern people live and interact**

[1] Scheunpflug, A. Die Konzeptionelle Weiterentwicklung des Globalen Lernens. (2007) *Jahrbuch Globales Lernen 2007/2008*. Hrsg. von VENRO, Bielefeld, p. 16.

in an increasingly global world. It is therefore important that education provides learners with opportunities and competencies to reflect and share their perspective and role in a globally interconnected society. One of the main researchers of globalization, T. Friedman identifies several phases of globalization, which he examines historically - Globalization 1.0, Globalization 2.0 and Globalization 3.0. The period of the last phase is associated with the predominance of technology, where the world becomes miniaturized and individuals are the driving force[2] . Outside the phases listed is the now emerging Globalization 4.0, in which Education 4.0 is developing. It is about development in the age of innovation and should shape skills related to leadership, collaboration, digital literacy, effective communication, emotional intelligence, entrepreneurship, global citizenship, problem solving and teamwork, critical thinking, creativity and innovation, intercultural understanding, lifelong learning skills[3]. Globalization leads to a certain internationalization and unification of undergraduate, graduate and doctoral curricula and a convergence of formulated educational goals. Requirements can be stated that academia should recognise alternative cultural perspectives as equally valid for all regions.

The above is linked to the European Higher Education Area, created as a result of the Bologna Process to replace the subject-specific priorities of individual academia with a set of social, economic and in some cases political objectives. The situation created makes it difficult for trainees in their efforts to differentiate and defend the educational potential that is worth passing on to future generations[4] . Global education is an educational perspective that is based on the fact that modern people live and interact in an increasingly global world. This brings us to one of the challenges of contemporary higher education in the context of globalisation - the reluctance to preserve and transmit universal knowledge, intellectual heritage and historically formed values to future generations[5] .

At the same time, in each country there are educational traditions and national educational priorities that are built on specific national psychological traits. Related to this are the emphases of individual countries' education policies, which implicitly or explicitly feature particular ideas for implementing global education for building a sustainable future. Among the reasons for the process of economic globalization stands out, which necessitates the need for modern education. Thus, most countries have established a market economy that allows free enterprise as an economic model, but they also need a new type of education to meet the new needs. Global education is understood as encompassing education for development, education for human rights, education for sustainability, education for peace and the dimension of education for citizenship.

EXHIBITION

Global education is an education that opens people's eyes and minds to the realities of a globalised world and spurs them on to achieve a world with greater justice and human rights for all. Our focus, will be on higher education, but it will also be complementary to other levels of educational provision in a global society. Globalisation has implications for the levels and conditions for the development of modern education and technological developments. Closely related to the conceptual features are the particularities of higher education in each country are the guidelines for the development of school education. An example is the dual system of vocational training in Germany, which consolidates the tradition of the German education system of early specialisation and profiling of students on the basis of their achievements. The dual system focuses on the

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[2] Freedman, T. (2006) The world is flat. A Brief History of the 21st Century, Sofia.

[3] Vitanova, N. (2020) *Education of the Future*, Shumen: University Press "Bishop Konstantin Preslavski", p. 22

[4] Young, M., Muller, J. (2016) *Curriculum and the Specialization of Knowledge: Studies in the Sociology of Education*, Abingdon: Routledge.

[5] Williams, J. (2016) Knowledge Matters. *Review Article in Spiked Review*, March http://www.spiked-online.com/spiked-review/arti-cle/knowledge-matters#.VwUgDBMrJT5 (07.08.2022)

formation of practical skills needed by enterprises and encourages cooperation between schools, enterprises and students. It focuses on vocational dual training in the recognised 350 or so professions, mainly in craft, trade, industry, services and agriculture.
The Scandinavian social model, which combines flexibility and security and seeks to achieve a balance between labour markets, goes in another direction. The achievements of the Finnish education system in the last 20 years are well known, with its practical orientation, individualisation of education according to cognitive ability and the increased prestige of the teaching profession in society. Education in Baltic Estonia is developing in a different direction, reflecting the national priority to boost the development of digital skills, high-speed internet and sophisticated IT infrastructure. The use of digital technologies has allowed the country to rank at the top of the EU Member States, in the OECD Programme for International Student Assessment (PISA)[6] . Preparations for the digitalisation of Estonian education have been ongoing for more than 25 years, starting in 1997 with the Tiigrihüpe project to provide computers and internet access for schools and digital training for teachers. In addition to digitalisation, another priority area of education in Estonia is entrepreneurship.
In the field of education, the process of globalisation has had a wide range of impacts on national education policies and is defined as the *globalisation of education.* It can also be defined as the commercialisation, privatisation and capitalisation of education at the international level[7] . This process is manifested in the following areas:
- focus on education as a mechanism for economic growth;
- Collaborative activities of intergovernmental, governmental and international non-governmental organisations in the field of education;
- the impact of information technology and the global information network;
- international evaluation in education;
- The influence of multinational corporations on global and regional education policies[8]
Thus, the globalization of the world economy poses to young people the need for their active participation in the increasing globalization of education[9] . It shifts the emphasis from local and regional educational research to macro or meso level research. In examining the impact of globalization on education at the local level, Spring reveals the systemic nature of its manifestation. He argues that global macro decisions made at the superstructure level trickle down to micro decisions made at the local level[10] .
Globalization brings to the fore knowledge and the possibilities to produce, transfer and apply it through information and communication technologies as the main driving force of economic and social development in the new information age. The very knowledge needed by every individual is increasing manifold, making education and the opportunities for acquiring and updating it throughout life of paramount importance. Globalisation thus has an immediate impact on the higher education system - elevating its role, but also presenting it with a number of challenges[11] .
Today, countries around the world are striving to develop a knowledge-based economy and this has a direct effect on education policies and university and school curricula. Thus, the role of education in promoting economic growth is being appreciated, with increasing attention being paid to

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[6] *Reflection paper on reaping the benefits of globalisation, European Commission* (2017), http://devedu.eu/wp-content/uploads/reflection-paper-globalisation_bg.pdf (07.09.2022), pp. 16-17

[7] Singh, B., Chaddha, S. (2018) Globalization and Education. *International Journal of Advanced Educational Research, 3 (1),* p.144.

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[10] Spring, J. (2014) *Globalization of Education. An Introduction*, 2nd Edition, New York: Routledge, p. 53

[11] Kanev, D. (2002) Globalization and Higher Education, *Economic Thought, 1,* pp. 32-33

learning institutions that form specific practical competencies to develop the potential to facilitate future economic growth. This leads to a convergence of curricula and their adaptation on specific scientific aspects with the potential to influence economic growth. Globalizing sectors of the economy that have a technological or scientific basis requiring specific scientific knowledge and skills include computing and mobile technologies, pharmaceuticals and biotechnology, among others. Countries developing or considering investing in the development of these technologies should be aware of new developments in science and their implications for curricula and programmes as a medium or long-term strategy for successful participation in these sectors.
Another strand of the impact of globalization on HE education relates to the growing role of information and communication technologies (ICTs) and the World Wide Web. The potential impact of this resource on scientific and educational programs is limited to the rapid sharing of scientific information and ideas across a wide range of universities and educational institutions, as well as multinational corporations that provide educational services and curricula and resources to education ministries around the world. ICT helps to increase the quantity and accessibility of learning resources and to implement a differentiated approach to learning tailored to individual needs. They enable rapid information sharing and interaction between learners regardless of their location.
The impact of ICT on the globalization of education is expected to continue to increase as traditional fact-based science curricula are replaced by more flexible curricula focused on the acquisition of specific skills[12] . In all spheres of life, and in the field of education, in recent years an important modern trend of development of IT technology related to the mass use of various electronic devices with the help of which communications between people and/or with the external environment can be realized - the "Internet of Things". In education, it can be reduced to the following applied technologies: artificial intelligence systems, virtual classrooms, electronic diaries, cameras for transmitting learning content online, robots[13] , interactive visualization of graphical and other elements through augmented reality, etc.
Globalization is a catalyst for the emergence of new phenomena in university education:
- the emergence of new education service providers in the form of media corporations and multinational companies;
- offering new forms of educational organisation such as distance education;
- taking into account a greater diversification of educational programmes;
- Increase mobility of students, teachers, curricula and educational projects that cross national borders;
- an emphasis on lifelong learning, which in turn leads to increased demand for higher education services;
- increasing private investment in higher education services, etc.
With knowledge transforming into a key driver of economic prosperity and becoming a 'knowledge economy', globalisation is forcing higher education to become a mass necessity. Thus, traditional education systems, from educating a limited number of students, are transformed into systems that encompass and transmit practice-oriented knowledge to ever larger groups of people[14] .The response to this by education systems in individual countries has involved the expansion of existing educational institutions and the creation of consortia, affiliates, the introduction of distance and internet learning, and the emergence of new private educational institutions. The impact of the globalization process on higher education can be considered in several aspects: institutional, conceptual, procedural.

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[12] Cornali, F., Tirocchi, S. (2012) Globalization, Education, Information and Communication Technologies: What relationships and reciprocal influences? *Procedia-Social and Behavioral Sciences, 47,* p. 2062

[13] Vitanova, N. (2020) *Aspects of Education 4.0,* Shumen. 93-94.

[14] Fallon, D., M.. Ash. (1999) Higher Education in Era of Globalization. *Responses To Globalization in Germany and the United States*, Washington: , American Institute For Contemporary German Studies, pp. 67-78.

The institutional aspect takes into account the influence that global and regional organisations such as UNESCO, the World Bank, the Council of Europe, the Organisation for Economic Co-operation and Development, etc. have on higher education systems. They regulate it through the development of international legal instruments and financial instruments, both global and regional. The conceptual aspect is related to the impact of the globalization process on higher education and more precisely on its objectives, principles, methods with a view to forming educational policies for the expansion of intercultural exchange, verification of educational degrees and adaptability to the requirements of practice. The procedural aspect takes into account global educational transformations to develop and implement quality standards for HE education.

As a positive aspect of the globalization impact on the educational processes in the field of higher education can be pointed out the introduction of the system of accumulation and transfer of credits for students, which broadens their horizons and helps them to perceive themselves not only as participants in the learning process, but also as consumers of educational services. The possibility to choose between a large number of courses and educational resources leads to an increase in the flexibility of educational structures and an improvement in the quality of education offered in Bachelor's, Master's and PhD programmes. Contemporary educational trends and learning technologies make the educational process continuous in the form of lifelong learning.

At the same time, many countries are actively implementing such market mechanisms as increased competition between educational institutions as a result of globalisation. This is forcing higher education institutions to emphasize in their educational missions on increasing the advertising activity with the positioning of the results achieved. There is a competition to gain the trust of prospective students, with the help of which higher education institutions can maintain and increase their funding from government subsidy. Globalization as a process also has a negative impact on higher education, which is where we can focus this analysis.

As the education system under the influence of global educational trends is increasingly becoming market-driven, educational institutions are striving to establish new relationships with learners, viewing them as consumers of the educational product produced rather than as participants in the educational process. This distances education from its humanistic essence and from the basic principles of the functioning of the social sphere. The commercial orientation of education in the age of globalization leads to a lowering of fundamental education and ensuring mainly the mastery of educational minimum, as well as paying less and less attention to the existing problems of ethics, social justice, etc.

Another negative relates to providing unequal access to educational resources. Limited access to the World Wide Web in remote regions places financial barriers to those wishing to obtain educational service using modern educational technology. Another negative aspect of quality international education can be pointed out as the financial side, which cannot be secured by socially disadvantaged people, even if student loans are used. As a negative can be pointed out the aspiration to universal unification of educational systems without paying enough attention to the national educational specificity of individual countries, which leads to the destruction of national priorities in their educational systems, which are built on centuries-old cultural and historical traditions. Another negative effect of globalisation on education is the emigration of highly skilled people ("brain drain"), which is becoming the dominant pattern of international migration and a major aspect of globalisation.

According to published data from the Census in the country in 2021, a "brain drain" of more than 2 million people is reported based on the previous census. The same process can be observed in a number of countries in Eastern and Southern Europe, which are having difficulty retaining their young, highly qualified staff. Increased emigration of highly skilled workers and young people can be linked to the Global Competitiveness Index (GCI) and reinforce the drive to migrate to countries with high GCI scores. It is researched by the International Institute for Management Development (IMD), an independent academic institution with Swiss roots and global reach. To calculate the IMD index, countries are analysed and ranked according to their capacity to create and sustain a

competitive environment. Four main factors are considered - economic performance, government effectiveness, business effectiveness and infrastructure. In turn, each of the factors listed is divided into 5 categories that highlight all aspects of the areas analysed. The main pillars of competitiveness emerge as - institutional framework, legislative framework, infrastructure and education.

The economies of 63 countries are analysed for 2022. With the highest competitiveness are the top 5 countries. Bulgaria ranks 53rd with an index of - 51.36[15] . In the period 2017-2019, the index for our country ranged from 62.32 to 64.90, after which it dropped sharply and the country retreated from the 48th place.

The reasons are related to the following challenges Bulgaria needs to address:

- Geopolitical turmoil and rising inflation caused by increasing electricity costs;
- Inconsistent policies on energy and climate protection and resources;
- Confrontation between the executive and the judiciary;
- Lack of credible enforcement of anti-corruption measures;
- Limited investment in research, development and innovation[16] .

For 2022, three trends emerge that could affect countries' competitiveness in the long term. The first trend is geopolitical issues, which are culminating in renewed armed conflict in Europe and could have global implications for years to come. This could lead to destabilisation of political systems, which in turn are a key element of effective governance.

The second trend concerns existing regional differences in terms of neglecting global risks that could have serious consequences on a global scale. A third trend is seen as the so-called "new globalisation", in which governments need to be more adaptive to changing global conditions and in readiness to meet unexpected threats such as a combination of several crises (health, economic, geopolitical, etc.) operating simultaneously.[17] .

Within the EU and globally, a workable mechanism is needed to integrate and coordinate policy measures to curb and stop the brain drain. In this respect, work can be done to improve the quality of life in order to attract and retain an educated workforce; to promote policies and instruments for the development of local entrepreneurship, self-employment and alternative business models; and to enhance the role of universities and vocational education, which are linked to the 'knowledge economy'. Today, the contemporary profile of higher education in the context of globalisation is much more dynamic and adaptive as a result of the changes it is experiencing and the need to respond to societal attitudes. It is becoming more systemic, which is caused by the increasing number of challenges it has to solve. The specificity of the time span of its manifestation is peculiar because it necessitates a change in the spiritual values embedded in it and their building on the traditional ones. At the same time, factors related to national traditions and priorities, which influence and should be taken into account, are added to those of a European and global scale. This broadens the 'geography' of possible societal values that should be related to contemporary scientific trends and outlines its recommended frameworks. In addition to developing in a time of transformation of spiritual values, the globalization timeline of higher education requires an adequate response to lay sustainable substantive foundations that will secure its functioning and can be used to build a "new moral landscape" for future generations.

The defining characteristic of contemporary education in the context of globalization can be defined as its mobility. It is typical of modern society and facilitates the elimination of certain borders and the bridging of distances. In the field of higher education, it contributes to the acquisition of experience on the basis of broadening contacts within the scientific community at

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[15] *Imd world competitiveness booklet* (2022), Lausanne, ttps://imd.cld.bz/IMD-World-Competitiveness-Booklet-2022, p. 33

[16] Ibid, p. 59

[17] Ibid, p. 26

national and international level. Good shared European and global educational practices enrich the arsenal of didactic competences of university teachers and make them more adaptable and flexible. An important feature of contemporary education in the context of globalisation is its increased digitisation. The process of increasing digitalization in all spheres of life is completely natural and has its impact on higher education. Its advantages and disadvantages have been confronted by teachers and students in a pandemic environment in the last two years. The problems that have arisen necessitate a search for long-term solutions concerning the need to improve the competencies of university lecturers to work in a digital environment; to increase the quality of digital resources that can be used in the process of distance learning and to provide technical systems and tools for their use; to search for and find mechanisms to obtain adequate feedback from students on the degree of their autonomy in the performance of tasks, etc.

CONCLUSION

The globalization of educational processes leads to a certain unification of education, which is aimed at unification and standardization of educational objectives, of didactic technologies recommended for their use in view of their effectiveness, of national criteria for evaluation. The EU guidelines for educational activities in the European Education Area, etc. serve as a common framework in this respect.

Naturally, unification should not be absolutized, but used creatively to highlight the diversity of educational ideas and their distinctive character in the field of higher education and to link them more closely to business. Educational changes in higher education are taking place at a much greater pace today than they did in the twentieth century. This is caused by the increased dynamics of processes in the modern world and their inevitable impact on education. Relevance as a requirement for the taught educational content causes conditions for rapidly occurring changes also in pedagogical technologies and didactic means. This poses a certain challenge for teachers in higher education institutions to be familiar with and apply current trends in European and world education. In conclusion, it can be pointed out that globalization processes have a complex impact on the characteristics of higher education and lead to its rapid transformation. In this process, a number of challenges are emerging that can be overcome by the efforts of the global academic community with the unifying goal of forming a new public morality.

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POTENTIAL FOR THE FORMATION AND FUNCTIONING OF REGIOPOLIS (FOLLOWING THE EXAMPLE OF BIELEFELD, GERMANY)

ABSTRACT

The examined and theoretically developed topic in the material concerns a "New type" spatial vision of a certain settlement on the part of the EU. A part of the philosophy of Regional Development and the commitment to the subsequent actions of socio-economic development of a territory that is presented in a "new way" is presented. Regiopol definitions are given, the space to be explored and analyzed is indicated. Certain criteria are presented in the territorial study of Regiopol, such as landscape space. An attempt is being made by the author to apply the possibilities of the new requirements of the EC in connection with the Green Policy, to Regiopole.

KEY WORDS

Regiopol, regional development, criteria and urbanization.

JEL

R11, Q11, O29, M21

INTRODUCTION

The birth of Regional Policy must be traced far back in time to the states formed before the new era - India and China, the ancient settlements of Babylon, Ur, Assyria, Phenicia, Uruk and Lagash. In these first formations of "Police (πόλις)" the beginning of the administrative-territorial division of the landscape space, according to the needs of the population, the settlement as a territorial unit and the rulers. Strabo (64 BC - 23 BC) is the founder of the first scientific theoretical knowledge of regional politics and development. In his 17-volume work "Geography" he pays attention to the territorial aspects of demographic processes - the settled and unsettled territories and the connections between them. For the first time, it proposed that the territories and regions be considered according to their natural signs and characteristics, as well as the division of the state into regions. It is considered that the modern scientific theory of regional development (academic orientation) began to form after the 17th century,

when the theory of economic geography was also developed. Regional development as an academic science began to develop in the 19th and 20th centuries. The question of the main stages in the evolution of views on the nature, scope and content of the concept of agglomeration is also important. The first stage, according to the world literature, covers the period from the mid-nineteenth to the beginning of the twentieth century, the second - from the beginning of the twentieth century to the 1970s, and the third - after the 1970s. As far as the Bulgarian scientific literature is concerned, the term 'agglomeration' appeared in the early 20th century and is used in the statistical description of settlements, i.e. as a statistical. Real agglomerations in Bulgaria started to be established from the 1970s onwards. of the last century, when in the highly developed countries began the third stage of their development. It was then that the first publications by our scientists on this subject appeared. One of the strongest and indisputable scientific schools, or the impetus of this science, is the German one, presented by Johann von Thünen (1783-1850), the originator of the theory of the so-called spatial reflection. Develops the first classical model for the localization of agricultural production. Wilhelm Launhardt (Wilhelm Launhardt 1832-1918), created a model for location selection that minimizes transportation costs for raw materials. August Loesch (1906-1945), Walter Kristaler (1893-1969), worked in parallel on the theory of central places, considering their 3 main contributions: they tried to formulate a theoretical dependence for the territorial organization of settlements; investigate the peculiarities of the territorial location of activities from the non-production sphere, justify the hierarchy of settlements (Konakchiev, 2003).

RESULTS AND ANALYSES

On the basis of regional development, which was created by the German classics (school), the construction of modern regionalism began in Germany. It is also basic for the rest of the countries in Europe (Russia, Poland and most of the countries in Eastern Europe).

To distinguish the potential territories in relation to their socio-economic development in 2006, Prof. Jürgen Aring and Prof. Iris Router from the University of Kassel developed a concept of Regiopol. This terminology is associated with regional planning and development of settlement systems, as the concept is formed by the hybrid form of region and Polis (city) – Regiopol, (Aring and Reuther, 2008). In Germany, the concept is applied to smaller cities located outside the metropolitan area, as an independent center developing social, economic, political, administrative, scientific and environmental activities (Regiopol Rostock, 2008).

According to (Regiopol – Deutschiand, 2008), a definition of Regiopol is as follows: "these are always large centers that play a special regional role beyond the aspect of supply and compensation, but due to their smaller size they do not reach the status of a metropolis and in this in a way they can be characterized as "little sisters" of metropolises". Metropolis or metropolis is a thematic term used to define a large city in an urbanized area and is the administrative, economic, social and political center of the region or area in which it is located. The term is applied to territories where the population in them is from 1 to 5 million people or much more. The metropolitan area can unite several cities with different area and number of populations. Transport infrastructure connections are basic for the metropolis, influencing the even distribution of the population throughout the territory.

Again, according to (Regiopol – Deutschiand, 2008), another definition of Regiopol is given: "these are the smaller metropolitan cities outside the metropolitan regions and should be understood as the center of regional development. The local location of the society and the attraction of mainly rural areas to the creation of the new structure. These are usually large centers that play a special regional role outside of supply and compensation, but because of their smaller size they fall short of metropolitan status." Geography begins to show interest in agglomeration issues since the 1980s. At that time, the following agglomerations could already be said to exist in our country. - Pernik, Plovdiv, Varna - Devnya, Burgas - Kameno and Veliko Tarnovo - Gorna Oryahovitsa - Lyaskovets. In the 1990s, the agglomeration formed around Pleven. Conurbation refers to an area that covers one or more cities and smaller towns and rural settlements around them. A conurbation links all these settlements of different orders into an area with well-established links of all kinds. About unlike

agglomeration, conurbation usually involves several large towns, the distance between which may be greater but the links are very stable. Famous conurbations in Europe are the Dutch, the UK conurbations around Manchester and Birmingham, and the Ruhr in the Germania. A key factor in the development of urbanisation is the nature of social production. It influences the development of many areas of human activity and the quality of the living environment. It also changes the economic and social structure of the population, the type of culture, etc. Another factor contributing to the development of urbanisation is the increase in transport, administrative, cultural, educational, etc. functions of cities. Their multifunctionality makes it possible to attract a large number of settlers. Linked to this is the improvement of age structure of large and medium-sized cities in many parts of the world. Metropolises (Mieg, 2019), as already discussed, are established and, to a greater extent, completed urban areas and are central places performing the function of administrative units. They develop economically without requiring external intervention due to their nature. For these large urban areas, the problems are related mostly from an environmental point of view. The question of smaller settlements, rural areas and cities for their socio - economic development has always excited regionalists, people from scientific circles, economists, politicians and administration. In terms of population and area, they are smaller than the metropolitan areas distant from the urbanized centers, but regardless of this, they are part of the region and perform socio-economic functions. Small settlements always remain in the "shadow" of big cities, which slows down their development. As a result, the idea of Regiopol was born, as a new concept offering ideas and visions for the socio-economic prosperity of smaller cities. Regiopol is separated from the metropolis as an administrative territory, but the connection between them is preserved through transport infrastructure and migratory mobility of the population. This is a new form of spatial development, on the one hand the formed urbanized area, on the other a new administrative-territorial formation is being created.

According to Prof. Jürgen Aring and Prof. Iris Router, the criteria by which a city can be considered a potential Regiopol are the following:

- ✓ Location outside the metropolitan area
- ✓ Population of the main city or the city network of more than 100,000 inhabitants
- ✓ Infrastructure systems at a high level
- ✓ Great economic importance
- ✓ Location of "Global Players" and "Hidden Champions"
- ✓ Concentration of innovation potential
- ✓ Location of University or several, scientific institutes and units

Of course, there is a procedure for identifying potential Regiopol in Germany, but we will not go into it here and specify the scientific concepts and characteristics. They are not subject to visualization in order not to bore the dear reader. For information, I will point out that the identification of Regiopol is based on:

- ✓ Population of the main city or the city network of more than 100,000 inhabitants
- ✓ Location outside the metropolitan area
- ✓ Potential for knowledge and innovation - location of a university

Out of a total of 82 main German cities that were examined according to the aforementioned search criteria, 19 are located in the main cities of metropolitan regions and another 30 are in a metropolitan area. For the remaining 33 large cities, the gravity thesis is consulted, cities are classified according to mass and distance parameters. And the main basis for calculation is the population of the respective city.

The first German region set to transform into a Regiopol is Rostock. It is the largest city in the province of Mecklenburg-Vorpommern in Germany with a population of 202,735 inhabitants as of 31.12.2011. Its area is 181,26 km², with an average population density of 1118 h/km². In order to popularize the idea in other parts of the country, various groups from business, administration, scientific circles and public figures are working in this direction. The characteristics (the same or similar can be applied to another settlement) of the city with which it can be transformed are defined:

Location; Port city; Economic and Social Center; Large city by population; University Center; Transport location of the city – European transport axis; Tourist destination or urban tourism; Research activities and others.

The region, Regiopol Bielefeld is the territory that develops this kind of regional concept. City in Germany with an area of 257,92 km², in the province of North Rhine-Westphalia with a population as of 31.12.2010 of 323,270 inhabitants, at an average density of 1,253 h/km². The economic structure includes small and medium - sized businesses, there are a number of family businesses in the area. A diverse center for the arts and entertainment. Old university center. It is this mixture that makes Regiopol the Bielefeld region, a colorful and lively area with a high degree of attractiveness and significant potential for development in economic terms. Rural communities contribute to a higher quality of life with a wide variety for the development and implementation of tourism activities. These socio - economic activities reflect on the number of the population in a positive direction, which in turn leads to an increase in natural growth. The inter-municipal association to the Regiopol region was agreed in 2016, spatially aligned with Regiopol Bielefeld and includes ten more partner municipalities of Bielefeld (Gütersloh, Herford, Bad Salzuflen, Halle, Steinhagen, Enger, Oerlinghausen, Leopoldshöhe, Spenge and Werther, as of December 2017 the partnership in this colorful region aims to strengthen competition between municipalities in the long term, as well as improve the quality of life.

CONCLUSION

From a modern point of view, the projects related to the development of the settlement system, and in particular those for Regiopol, should be aimed directly at the population in the smaller municipalities, which are connected to the larger administrative center. This new type of settlement must be given its chance for development and funding, just like large urban centers. A condition is created to preserve the population in rural municipalities without losing the center-periphery connection. The reduction of migration processes and the pressure on urbanized spaces is a key element to the development of this "new type" of space. The formation of administrative structures of this type, secured by built or under construction infrastructure, creates conditions for the normal functioning of society in all its aspects of development. On the other hand, Regiopol, as a forming territorial unit according to the European NUTS classification, including in its nomenclature also smaller settlements, outside the urbanized area, creates a perspective for creating suburban (Petrov and Marinov, 2020) spaces. In connection with the new European policy related to the implementation of the "European Green Pact" (EC 2019 - 2024), Regiopol can become a "platform" for implementing the introduced requirements for Sustainable Development of the Old Continent - new infrastructure (social - economic) corresponding to the Green Policy philosophy, such as promoting climate action. The third industrial revolution, the ecological transition, represents a huge opportunity for European industry, as it leads to the creation of markets for clean technologies and products again according to (EC 2019 - 2024). In developing countries, urbanisation is one important factor in accelerating their socio-economic development. Modern demands on the quality of life, the needs of high education and qualification, high technology and developed culture are causing the number of people in these countries to grow continuously, who are leaving the villages and looking for a way to live in cities. In their case, the rapid increase urban population growth can prove dangerous. Most often, the urbanisation process is difficult to control because these countries do not have the sufficient economic, financial and legal capacity to do so. Most characteristic of developing developing countries is precisely the high growth rate of urban population. Urbanisation is extensive. Large rural masses are moving towards cities not only because of the above factors, but very often driven by poverty and unemployment in villages. Many of them cannot adapt to urban conditions. In developing countries, there is usually one big city, which is usually the capital, and the rest cities are much smaller in population their size and functions performed. The strong development of a city (in smaller countries) or several (in larger ones) gives rise to a host of problems, the most acute being that of the high concentration of functions in one, rarely in several places and the impossibility of

development of secondary centers. For the territories of the other European countries, members of the EU, the implementation, formation and development of Regiopol is possible. Taking into account the specifics and characteristics of the socio-economic profile for each country.

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POSSIBILITIES FOR IMPROVING THE ADMINISTRATIVE AND TERRITORIAL STRUCTURE IN BULGARIA

ABSTRACT
This article is devoted to the consideration of some territorial problems in the Republic of Bulgaria. Proposals have been made for a new structuring of the regions for planning and change in the functional structure of the settlements and respectively the Bulgarian village. Some new trends in regional development related to the spatial development of our national territory have been captured.

KEY WORDS
regional, development, territory, structure, economy, level.

JEL
R10, R15.

INTRODUCTION

The object of study of regional development is territory. In this territory there are formed smaller administrative units of different rank. In our country, these distinct territories subject to our study are rural territories. In theoretical and practical-applied character they are part of territorial systems and fall within the field of regional science.

Returning to the spatial development in the territorial plan of the country, the economy, settlements, social and economic infrastructure, population density and numbers are not evenly distributed. This is due to the three main factors that have influenced the different historical stages of development: natural, historical and economic. The role of socio-economic zoning is to identify the differences in the territories and to propose measures to resolve them, in order to make more rational use of the potential of the areas to improve the lives of the population. In recent years, spatial disparities and imbalances in the country's territory have become more pronounced. The imposed need to search for a more efficient spatial planning passes through the prism of regional development. Certainly, in the context of the coronavirus crisis, the process of electronisation further brings to the fore regional issues and the need for innovation at territorial level.

Even in the most remote locations, digitisation and information technology are now becoming a necessity. In addition, individual territories increasingly need systematic scientific analyses, measurement of regional efficiency, the state of demographic potential, etc., in order to access funds from EU programmes and conduct up-to-date regional policy. Thus, the optimised territorial division should be based on the experience and practice of regional development management in Bulgaria.

EXHIBITION

The current state of the districts and municipalities is an embodiment of the socio-economic development of the country. Under the governance and financing mechanisms in place, municipalities and districts can continue to function, with the gap between large and small municipalities in terms of population likely to widen. The reason for this is rooted in the fact that territorial systems are usually made up of interrelated elements of a natural, demographic, social, economic, cultural, and environmental nature. Thus, in chronological order, territorial and socio-economic regionalisation has developed in two main directions. First, by applying practical skills in the territories to implement targeted policy and attempt to create an optimal governance model. Socio-economic regionalisation issues have always been the subject of research by Bulgarian economic geography. The first attempts at regionalisation of the territory of Bulgaria were made by Anastas Beshkov in 1934. He proposed to divide the country into 7 economic regions. The next stage in which a new economic division was proposed was in the period 1952÷1953. A scientific conference of the Bulgarian Academy of Sciences was formed with the participation of a wide range of econometricians, who expressed the opinion that "the economic regionalisation of the country does not coincide with the existing scheme of administrative-territorial units: 'districts and municipalities'. At the discussion, Acad. Beshkov again proposes the 1934 scheme of 7 regions. Prof. Bashkek also proposed the new plan for the same period. Ignat Penkov supports the opinion that "the administrative-territorial units "districts" are economic regions, i.e. there is a coverage of administrative units with economic regions. Another scheme proposed is that of prof. Tianko Yordanov of 5 economic regions. Prof. Iordan Yandoran and the South-South region. Hristo Marinov proposes to divide the country into three regions. The results of the studies were published in Geography of Bulgaria, Volume II in 1961 and Economic Regionalisation of the NDR, 1963, proposing a total of 10 regionalisation schemes, which included, industries, demographic indicators and socio-economic activities, etc. Another scheme to be considered in the present study is on the lower hierarchical units: sub-districts and micro-districts proposed by a collective of BAS (1983)[18] . A large number of econometricians consider districts as formations formed by interconnected sub-districts. Each subregion is formed by a different number of micro-districts with varying degrees of social and economic status. The micro-districts are taken to be the former districts, now municipal centres. The research in which all of the above hierarchical units were evidenced is mainly from 1965 to 1985. As a final result of the research and analysis, 9 socio-economic regions were formed: the South-Western, Western Upper Thracian-Rhodopean, Eastern Upper Thracian-Rhodopean, South-Eastern, North-Eastern Primorsky, North-Eastern Pridunavsky, Yantrensky, Vitsko-Osamsky and North-Western, a collective of the Bulgarian Academy of Sciences (1989)[19] .

We can assume that spatial planning is an important factor in the management of regional development. In this direction, the Regional Development Act adopted in 1999[20] defines the object, subject and objectives of spatial and territorial management of our national territory. The Regional Development Act is the formal marker of a new stage, which seeks to solve the main problems of regional development policy and transition to a conceptual, integrated, financially secured and publicly announced and monitored regional policy. It is aimed at establishing rules for the allocation

[18]BAS Collective, Territorial Production Complexes in South Central Bulgaria, ed. Bulgarian Academy of Sciences, Sofia 1983, Collective of Bulgarian Academy of Sciences, Physical and Socio-economic Geography of Bulgaria, ed. Regional Geography of Bulgaria. Kliment Ohridski, 2001.

[19] BAS Collective, Physical and Socio-economic Geography of Bulgaria, ed. ForCom Sofia 2002.

[20] Regional Development Act. SG 26 of 23.03.1999.

and use of regional development funds and regulating relations between regional development agents, as well as creating the conditions to meet EU requirements in terms of regional policy. The law should not be seen as the end, but as the beginning of a long and difficult process. The Law on Administrative Territorial Planning, the Law on Local Self-Government and Local Administration, the Law on Municipal Budgets and others are important in this respect. All this shows that in our country the normative character is leading in managing the processes of regional development. In this respect, it is important to accept the role of the European Union in making regional policy in Bulgaria.

European regional policy and territorial planning in Bulgaria.

The formulation of regional policy within the Community throughout its development aims to reduce structural disparities between regions in the EEC/EU and to accelerate the balanced development of territories throughout the Union. All the objectives and targets set are based on the concepts of cohesion and economic cooperation between the Member States. An accepted practice in the Union is to create strategies and update existing treaties. In this respect, the EEC/EU pursues a rural development policy for all member countries. Rural areas in the EEC/EU occupy more than 90% of the territory and approximately 60% of the population live in them. The rural development policy pursued by the EU aims to support a significant proportion of the population in rural areas of the Community. Many of these areas face major social, economic, environmental and infrastructural challenges. The economic activities and enterprises in operation, rural employees, agriculture and forestry are still not sufficiently competitive.

Thus, in Bulgaria, after our EU membership in 2007, changes to the Regional Development Act of 2008 were necessary[21] , through which regions are formed based on their geographical location and population size. The regions that form *level1* do not represent administrative-territorial units and are as follows:

1. North and South-East Bulgaria Region, comprising the North-West Region, the North-Central Region, the North-East Region and the South-East Region;
2. South-West and South-Central Bulgaria Region, including the South-West Region and the South-Central Region.

The districts which form *Level 2* are not administrative-territorial units and have the following territorial coverage:

1. North-West region, including the districts of Vidin, Vratsa, Lovech, Montana and Pleven;
2. North Central Region, including the districts of Veliko Tarnovo, Gabrovo, Razgrad, Ruse and Silistra;
3. Northeast region, including the districts of Varna, Dobrich, Targovishte and Shumen;
4. Southeast region, including the districts of Burgas, Sliven, Stara Zagora and Yambol;
5. South-West region, including the districts of Blagoevgrad, Kyustendil, Pernik, Sofia and Sofia;
6. South Central Region, including the districts of Kardzhali, Pazardzhik, Plovdiv, Smolyan and Haskovo.

Based on this classification, the Republic of Bulgaria is divided into three levels:

NUTS1 covers the two territorial areas of North and South East Bulgaria and South West and South Central;

NUTS2 covers the six statistical regions (North West, North Central, North East, South East, South Central and South East);

NUST3 with 28 administrative territorial districts. At the local level LAU1 264 municipalities, 231 belong to rural areas (as of 2014).

It should be stressed that the interest in regions and, in particular, in regionalism comes from the larger countries of Western Europe, Germany, France, Italy, England, etc. The activation of "regional ideas" on the Old Continent was recorded in 1996, when in that period there were more than 300

[21]ZPP of 31.08.2008. amend. 66 of 26.06.2013 sets out in Chapter Two: Territorial basis of regional development in Article 4.(2)

regions in Europe with different territories, political and administrative governance with a population of more than 400 million. In the adopted "Declaration of Regionalism in Europe", the idea of "distant" regions to represent their countries in institutional frameworks was enshrined. The initiator of this event is the Assembly of Regions in Europe, and the aim is to establish the 'Declaration' not so much for Europe as beyond it.

Rural areas are an important part of regional policy within the European Union. In the literature, the concept of 'rural areas' is considered individually, taking into account their specialisation aimed at the development of activities related to the agricultural economy. The formation of rural areas is influenced by certain factors: location, agro-climatic, ecological, socio-economic, geodemographic, formation policy, infrastructural, etc. These areas are in a continuous process of change and development depending on their localization, proximity to a major socio-economic centre, urbanized areas, availability of technical and social infrastructure, etc. Regarding the terminology and formation of the term "Rural Areas", there are different interpretations and opinions. According to Madjarova (2000), these are areas "...in which agricultural workers occupy a relatively high proportion of the population and live in them and the rural way of life prevails..."[22]. These areas are described as having less developed technical and social infrastructure, lack of capital, low labour productivity, deteriorated social activities and lower standards than the national average. The role of a municipal centre is successfully fulfilled in a given village or smaller town in the respective administrative unit, as defined by legal provisions.

In the European Union, rural areas are defined as territorial units which have a population density of up to 100d/km² or a relative share of agricultural employment equal to or twice the Community average for any year since 1985.

Implementation of regional development policies in Bulgaria

In methodological terms, regional development can be approached by compiling an integrated assessment within a specific spatial and territorial scope. This approach allows us to derive a spatial overall assessment of the situation in a given unit (municipality, locality) as a sum of individual assessments of their indicators. This makes it possible to frame the respective community deficits in the socio-economic development of individual territorial units by measuring regional development. Hence, through regional development, a vertical disaggregation of the spatial structure of the modern nation-state can be carried out in order to reveal the degree of economic linkages between them and characterize the environment. This can be done by determining the zones of gravity and the role of large settlements and settlement structures in their functioning and the state of the regional economic system. In this direction, the correct typification and functioning of the areas based on the concept of pole development in accordance with the national and regional location and development can be important.

For each country, relevant types of regions can be identified: hypertrophied, highly industrialised, weakly industrialised, highly urbanised, regions dominated by small settlements and dispersed localisation of population, transport regions, regions with peripheral economy, specific functional regions (agrarian, industrial, tourist, mountainous), etc., and the corresponding regional policy can be pursued. This leads to a further necessity that, for the assessment of spatial development, indicators should be derived into at least two groups. Thus, let us assume that there are core and complementary indicators in regional development. Such a division can be derived depending on the objectives of the categorization or due to their specific features to distinguish the objects (municipalities and localities). This process should undoubtedly be linked to the structuring of an information database in which primary data are accumulated. The second step is to translate the indicators into a single scale, by defining a baseline integral score for each of the municipalities and each locality, and forming groups and categories of territorial communities. In practice, in order to proceed to the analysis of the results and proposals for categorization to match the defined criteria and indicators

[22] See. Madjarova, S., Rural areas in Bulgaria.

with the necessary primary and derived values of the indicators to be measured and valued. This necessitates the derivation of appropriate data interpretation models. Thus, regional development can have a corresponding cybernetic model expressed in the establishment of relationships (straight and backward) and regulations in a certain territorial scope of the organized and self-regulating system. In this direction, regional development can be perceived as a process that obeys general regularities, regardless of the nature of the environment, whether it concerns governance in living nature, in inanimate nature or society. Thus, from a theoretical point of view, regional development is related to the functioning of governance in complex dynamic systems, abstracting from their substantive characteristics. Regional development proves that systems are characterized by continuous changes, complexity of structure and increasing or decreasing degree of stability of their existence depending on the amount of information in them. in this direction, regional development is called to be a necessary component of self-governing systems. Primary data from supporting institutions or sources of specific information are used. Where necessary, preliminary analyses and calculations are carried out using standard statistical calculations including the application of geospatial analyses. The Unified Classification of Territorial and Administrative Units (ECATTE) maintained by the National Statistical Institute (NSI) shall be used in forming the base and in subsequent calculations for municipalities and settlements. If data are not available for some of the indicators for all units, this indicator is excluded from further analysis or data from previous years are taken if possible. If data are not available for some of the units (municipalities and/or localities) for any of the indicators, average or approximate values are used. It is assumed that the base has been formed and all indicators have been valued when the data for each indicator have been completed for each municipality or locality.

In practice, regional development is meant to characterize the pattern or pattern of development of the country as a whole. This implies a significant level of decentralisation and linkage of the governance system to the available resources for the implementation of the relevant measures and policies. To a large extent, regional development management requires the setting of priorities for each individual territorial community - the respective autonomous space in search of realising the potential and comparative advantages for better participation in national and international markets within the global framework of the national development strategy.

Focusing regional issues on Northern Bulgaria

Territorially, Northern Bulgaria is located north of the main ridge of the Balkan Mountains, which conditionally divides the country into northern and southern parts. The northern border is entirely with Romania. It extends from the mouth of the Timok River to Cape Kartal on the Black Sea. In the stretch from the mouth of the Timok to Silistra, it is along the Danube for 470 km. There are 48 islands along the river, which are in the territory of Bulgaria. Their total area is about 85 - 90 km^2 . The largest is Belene Island. It has an area of about 41 km^2 . From Silistra to Cape Kartal, the border is land. This section is 139 km long. The western border of northern Bulgaria is with the Republic of Serbia and it runs through the Balkan Mountains (Berkovska, Chiprovska and St. Nikolska Mountains), the Belogradchik Pass, Babin Nos, the Vraška Chuka Pass and along the Timok River Talweg to its mouth on the Danube. To the east, Northern Bulgaria borders the Black Sea. The area of Northern Bulgaria is 48,495.1 km^2 , and the population as of 2018 is 2,455,507 (55.05 people/km^2).

Historically, today's Northern Bulgaria, together with the remaining after 1918 in Romania Northern Dobrudzha, is the historical region of Mysia, one of the three - together with Thrace and Macedonia - historical-geographical areas in which initially in the 9th-10th century, and later in the 19th century the Bulgarian nation was formed. It includes from south to north, first of all, the Pre-Balkan, which makes the transition from the Danube Plain to the Balkan Mountains, which run parallel across the country, from the mouth of the Timok River to Cape Emine, dividing Bulgaria into North and South. The Danube Plain is divided into three parts - western, middle and eastern, the boundaries of which are the rivers Vit and Yantra. The Danubian Plain is a hilly area, the maximum height of which

reaches 502 m (Turnov peak in the Shumen plateau). An important part of northern Bulgaria is also occupied by southern Dobrudja, which is divided into two parts along the virtual line between the village of S. Pillar and s. Rosica - the flat eastern plateau and the hilly western part of Dobrudja. The average altitude of plain Dobruja is about 230 m and the coastline is steep. A characteristic and unique part of the Dobrudzha coast is the alternation of wetland and steppe areas, which makes it particularly interesting for specialised tourism.

Regarding the climatic features of Northern Bulgaria, the predominant air mass transport is from the west. The meridional transport of air masses alternates between northerly and southerly directions during different months of the year, without either direction predominating. There is a marked decrease in the annual number of cyclones, especially in north-eastern Bulgaria. The number of cyclones also decreases significantly in January, June and November. This is due to the extension of the range of major anticyclone centres such as the Azores Maximum and the Siberian Maximum. At the same time, the meridional index decreases its values in all months of the year. This leads to an increase in the northerly component of air mass transport. As a result, we have an increase in transport from the northwest in winter, which leads to warming in the north, heavy snowfall in the west and drought in the east. On the other hand, an increase in transport from the northeast in summer, the occurrence of short heavy rainy periods. Thus, in terms of regional development in northern Bulgaria, we have the presence of a suitable environment for the development of agriculture and the food industry.

The area of the region includes the North West, North Central and North East planning regions. Administratively, the North includes 14 districts and 122 municipalities. It can be assumed that the main driving segment of territorial planning in Northern Bulgaria is local self-government. A municipality is a unity of functionally united settlements and inter-village territories, a distinct socio-demographic system. A number of economic-geographical publications emphasize that spatial disparities are sharply increasing at the municipal level. Thus, most researchers share the view that municipalities in Northern Bulgaria are less developed than those in Southern Bulgaria. On the other hand, much of the reason for the deficits is mainly related to the lack of a clear geo-economic profile of Northern Bulgaria, and the formation of strong regional economic nuclei that drive development in the north. This problem can be minimized if conditions are created for the establishment of a regional level of self-government, as well as the creation of 5 geo-economic centers in the cities of Vidin, Pleven, Veliko Tarnovo, Ruse and Varna, which will be the engines of development in Northern Bulgaria. It is assumed that on this basis, the respective regional government structure will be able to independently implement large investment projects, which, together with the promotion of the mono-profiling of most municipalities and the structuring of a dozen small and medium-sized enterprises in them, which will create conditions for increasing GDP per capita in the small municipalities of Northern Bulgaria.

Another important component influencing regional development is population. In Northern Bulgaria 36% of the population is concentrated. Larger cities are Varna, Ruse, Pleven, Dobrich and Shumen. Over the last 20 years, there has been a tendency for an imbalance in the territorial distribution of the population between Northern and Southern Bulgaria. In 2018, the population in Northern Bulgaria is 35.2%, while in 2050 it will be 31.3% of the total population of the country, or a decrease of 3.9%. In recent years, only a few regional centres in Northern Bulgaria have increased their number of inhabitants and these are only the cities of Varna, Veliko Tarnovo and Targovishte. At the same time, some of the regional centers in Northern Bulgaria are losing population, for example Ruse in 2018 lost - 1223 people. Other cities with declining populations include Pleven - with 947 people, Dobrich - 918, Gabrovo - 808 people. The population of Vidin also decreased by 612 inhabitants. and Vratsa - 503 people. With less but the negative trend is the same in the city of Lovech the population has decreased by 455 inhabitants, and of Silistra - by 423. In 2018, several other regional centers saw their population decline, such as Montana - 355 inhabitants, Razgrad 346 inhabitants and Shumen 337 inhabitants. This negative trend can also be seen in some important municipal centers in Northern Bulgaria, for example, in Svishtov the population decreased by 985 people, in Lom by 394 people,

Gorna Oryahovitsa -296 people, Troyan - 253 people, Popovo-210 people and Belene by 203 people. The deteriorated demographic picture further highlights the need to prioritize regional development policies. It is necessary to seek solutions by optimizing the municipalities and districts in the country. It is obvious that reforms are necessary, but whether we opt for a model of reducing municipalities or regrouping them is a political task that regionalists can solve with the necessary arguments. It is clear that Northern Bulgaria is the most affected by the transformation and changes in Bulgaria. The solutions must have a positive sign and set a future and have socio-economic potential. In addition, the current state of spatial organisation (planning structure) is also important. It is directly dependent on the existing structure of the settlement network and the displacement of the population and an assessment of its potential. Thus, in order to determine the trends in the regional development of Northern Bulgaria, it is necessary to implement spatial planning changes to meet the new needs of the population and settlements. The example of Northern Bulgaria can be considered similarly to Southern Bulgaria, where most territorial units have similar problems. The search for new opportunities for new socio-economic regionalisation and the establishment of a three-tier system of government in Bulgaria could be a step in the right direction. Undoubtedly, in this direction is the importance of regional development, which should be highlighted as a real national priority to set the trend towards the modernisation of the regions in Bulgaria.

CONCLUSIONS

Regional development is the science of the management, administration and economics of territory. To develop a territory to help solve economic and social problems in the territory. In our view, villages and small towns (by population) remaining outside the national definition of rural areas should enjoy the same rights and opportunities for the implementation of social, economic and financial programs. The country needs to optimize regional governance mainly due to the peculiarities created in territorial planning and imbalances outlined. By drawing up a new territorial division and collecting passport data and indicators for monitoring and evaluation, we will be able to put into perspective the new priorities for regional development. This means supporting and prioritising the development of regions and administrative units that can become locomotives of progress and development. Improving regional development can encourage the implementation of new and vibrant projects in settlements and towns experiencing difficulties in their socio-economic development.

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REGIONAL DEVELOPMENT POLICY FORMULATION THROUGH THE LENS OF ENVIRONMENTAL IMPROVEMENT THROUGH WASTE MANAGEMENT AND REMEDIATION

ABSTRACT

This article presents the possibilities of forming regional development policy through the prism of environmental improvement through waste management and remediation. The focus of the study is the ever-increasing amount of waste generated by people's living activities, production and trade, necessitates taking measures to reduce their total amount, reuse them and increase their recycling and recovery. At the same time, the article analyses the possibilities for the development of waste treatment technologies, the increasing possibilities for the use of waste as an alternative raw

material and energy source and the reduction of the amount destined for landfill. As a consequence of these trends, interstate cooperation to solve waste management problems is increasingly intensifying and this is the focus of this paper.

KEY WORDS
development, waste, correlation, models, policy, ecology

JEL
A22, C51, E61, H77

INTRODUCTION

The socio-economic policy implemented in Bulgaria is aimed at developing an efficient and competitive economy and full integration into European structures. Part of it is the regional development policy, as well as the effective environmental management. In 1991-1992, an extensive study on the Environmental Strategy was carried out at government level, with the assistance of the World Bank and the US Government, through the Environmental Protection Agency (EPA) and the United States Agency for International Development (USAID). The study provided a comprehensive overview of the country's major environmental problems, the causes that led to these problems, and identified development priorities. This outlines the horizon of the need for a focused regional policy that rests on integrated environmental policies. This vision is also reflected in the newly developed specialised legislation on regional development and regional policy in the country. In practice, environmental protection is linked to the principles of sustainability - this means that economic development should not lead to irreparable damage to nature, on the one hand, and on the other hand, it is necessary to ensure that future generations are able to benefit from natural resources. Sustainable development is a realised necessity and is about integrating environmental, economic and social objectives. However, this integration is not always easy to achieve (Akimova , 2007). The emergence of sustainable development as a dominant paradigm in the late 1980s and early 1990s is a consequence of new political trends in which environmental issues in particular are coming to the fore. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted worldwide. Along with the provisions for the control of transboundary shipments of waste, the Convention also introduces the basic principles of waste management[2].

Implementation of an institutional waste management policy

At the European level, the main guidelines of waste management policy are outlined in the European Community Waste Management Strategy adopted in 1989, where the following principles of a "waste management hierarchy" are formulated[3]. It identified waste prevention as the first priority, followed by waste recovery through recycling and incineration with energy recovery, and finally environmentally sound disposal through incineration without energy recovery and landfilling. The second principle is 'polluter pays' and 'producer responsibility' - waste generators or producers of products that generate waste after use must bear the full cost of waste treatment. The third principle is 'best available techniques without excessive costs' (BATNEEC) - emissions from installations into the environment should be reduced as far as possible and in the most cost-effective way. The next principle is 'self-sufficiency' - each country must build a network of facilities and installations with sufficient capacity to dispose of all the waste generated on its territory. The next level is 'proximity' - waste should be disposed of as close as possible to where it is generated. To ensure waste prevention, a number of instruments are being applied, such as promoting the introduction of technologies that generate less and less hazardous waste; adopting technical standards to limit the presence of certain hazardous substances in products that generate waste; and promoting reuse systems.4 Environmental protection activities, and waste management in particular, must be carried out without disrupting the functions of In this respect, the principle of 'self-sufficiency' applies only to waste destined for disposal, without prohibiting the shipment of waste for recovery to another EU Member State.

In practice, the first attempts at a more targeted policy took place in the period 1992-2000, when actions related to the formation of the institutional framework, the laws and standards, the possibilities for monitoring and information provision, the policies related to restructuring, the economic and administrative instruments for implementing environmental policy were undertaken. Some specific measures have been identified to address critical environmental problems in specific areas of the country. The objectives formulated are along two main lines, firstly, to introduce new approaches and create a sound environmental management system, and secondly, to improve environmental conditions in the country's hotspots. In this direction, waste management may also prove to be an important point in the direction of improving our surroundings. It can be assumed that in the period up to 1999, national, municipal and company waste management programmes were under way. The foundations of the legal regulation of waste management, in accordance with the requirements of European legislation, were laid with the adoption of the Act on the Limitation of the Harmful Effects of Waste on the Environment (LELWEA) in 1997, and most of its provisions are also enshrined in the current Waste Management Act (WMA) (SG No. 86 of 2003). The WEEE Act established the legal framework for waste management in the country - the types of waste to which waste management legislation applies were regulated. The definition of waste was introduced, on the basis of which the substances to be considered as waste are defined, as well as the definitions of waste producer and waste holder, which define the persons responsible for waste management. A permit regime was established for all activities related to waste management and the competent authorities - the Ministry of the Environment and Water (MoEW) and its territorial authorities the Regional Inspectorates for Environment and Water (RIEW) - were designated to issue permits and monitor their implementation. In order to collect information on waste necessary for management decision-making and effective control, a procedure for recording and reporting the quantities of waste generated and treated (municipal, construction, industrial and hazardous) was introduced and the Waste Management Information System was set up**.** In practice, during this period, attempts to build or are in an advanced stage of preparation for the construction of basic infrastructure facilities as part of the system for integrated waste management in the country. Organized household waste collection covers about 77% of the country's population. It is noted that there is a good basis and potential in the country regarding the development of the necessary statistical system for waste, in this direction and registers of landfills and old pollution with waste [5].

One of the most serious problems in and around settlements in the country, both from an aesthetic and a hygienic point of view, is waste. The large and indiscriminate littering cannot be covered by the existing information system, but this is hardly necessary. Averaged over the period 1991-2001, information on total municipal waste shows approximately 3.2 million tons of waste per year or about 390 kg per capita[6]. The latter, compared with the figures for Greece (310), Portugal(330), Hungary(387) and Poland(338), shows first of all that a systematic waste management policy needs to be enforced in the country [7].

On waste management issues, a series of problems related to pollution in and around waste settlements is one of the most serious aesthetic and hygiene problems of the country. As of 1999, the number of villages covered by the organized garbage collection system was still small. Separate collection and treatment of hazardous waste from households, and in many cases from hospitals, is not universally carried out. There is no system and installations for the treatment of old vehicles. There is no separate collection and recycling of packaging waste and other household waste. There is a lack of a national policy, installations and an established system for the treatment of biodegradable waste. There is no national and local policy on household agricultural waste. The administrative capacity of control structures, information collection and planning possibilities are insufficient in relation to the requirements of the adopted and pending legislation. The municipal waste fees collected do not cover all the costs of collection and disposal according to the legal requirements. The issue of sewage sludge remains open. All these emerging challenges for waste management, as well as Bulgaria's invitation to become a member of the European Union, make it necessary to improve waste management policies [8].

In the period 1999-2008, three laws related to the development of regions in Bulgaria were successively adopted. This helps to clearly delineate the functions and responsibilities of the central institutions with regard to the management of environmental components. However, insufficient administrative capacity of the central authorities for the preparation and implementation of regulatory documents was identified during the period. This is related to insufficient coordination between the different institutions concerned with environmental protection in the implementation of joint policies and in the establishment of programmes and regulatory documents affecting different areas of public life[9].

The reasons for the increasing attention of international organisations, institutes, political and scientific circles, companies and citizens in the field of waste economics are rooted in the processes taking place worldwide, in the development of the issue itself over time and in its importance. In the last few decades, waste management has evolved from an industry primarily concerned with the processing of waste and its final disposal to one that contributes significantly to energy saving and material recovery. On these issues, from a regional development point of view, there is a decentralisation of competences without reciprocal provision of financial instruments to realise responsibilities. This leads to insufficient capacity in municipal administrations to deal with the challenges facing them - lack of ecologists in many municipal administrations, lack of control bodies, although they have control functions, there remain uncovered areas, lack of competence to develop tender documents and concessions. New problems are highlighted such as the need to build an integrated system of waste treatment facilities. Establishing mechanisms for the functioning of the separate collection, recycling and reuse system. Significantly improving the cleanliness of Bulgaria's settlements. This requires a closer link between environmental waste and regional development and effective territorial management[10].

Regional development and environmental protection

In the context of the new legislation on regional development, strategic guidelines have been proposed to improve the activities, of regional and district councils, as bodies for the implementation of state policy for regional development, in level 2 regions and districts through decentralisation and subsidiarity. Strengthening the powers of regional and district councils to improve capacity, through strategic planning, improving regional coordination between different sectoral development policies, programmes and projects, improving the system for monitoring and implementing documents and assessing the impact on the development of the regions. Allocating resources to regional and district development councils to develop their functionality and effectiveness, and to support the activity of carrying out specialised studies of areas with geographical handicaps. This includes the improved environmental situation. The aim of developing an environmentally friendly, competitive, green economy as a contribution to sustainable development and resource efficiency is part of the EU measures to achieve the objectives of the strategy. The European Union seeks to integrate the objectives of the Sustainable Development Strategy into all its policies. The term 'green economy' was first coined by D. The concept of a green economy was first introduced by Dr. Pierce in 1989 in his book 'A Blueprint for a Green Economy', which set out the characteristics and principles of the concept of sustainable development[11]. The green economy has been proposed as a policy approach to help address the problems of slowing economic growth and job loss, as well as the continuing degradation of environmental quality and ecosystem degradation. However, this can only happen in a context of stable and effective regional policy. In these conditions, it is important for the spatial development of the national territory to achieve the necessary meso-level capacity. In practice, this means empowering the regional development management authorities in Level 2 regions and districts. At these levels, development policies and the implementation of modern strategies should be able to be implemented, designed to highlight the leading role of regional and district councils in the implementation of development strategies in line with international standards and best practices for sustainable integrated regional development. In this direction, we can adopt the following working title for regional policy: 'policy pursued at regional level by the state. It establishes sustainable integrated development of regions and municipalities through a system of regulatory documents,

resources and actions aimed at reducing inter-regional and intra-regional disparities"[12]. Regional policy is implemented by executive authorities at national and regional level. The regulation of the municipality as an administrative-territorial unit in which local self-government is carried out, guaranteeing the right to property, an independent budget and association of municipalities, as well as the definition of the bodies for their management is also essential for the formation of regional policy [13]. Thus, at the level of regional development, it is necessary to move towards the implementation of a regional policy defined as "Sustainable Integrated Regional and Local Development". This requires a definition of this concept. In our case, Sustainable Integrated Regional and Local Development will be understood as the implementation of a policy that aims to: bring about targeted changes in living and working conditions in areas through social and economic action in line with environmental protection and protection against discrimination. This is necessitated by the need to establish clearer rules and procedures for the development, adoption, implementation, monitoring and evaluation of strategic planning documents for regional and local development is simplified hierarchical relationship and coherence between the documents in order to improve coordination between the bodies that develop and adopt them. In order to implement the State policy on environmental protection and to integrate it successfully into sectoral policies and regional development management, the necessary regulatory and institutional environment has been formally established. According to the author's opinion, the term "environmental assessment" does not sufficiently reflect the essence of the concept of "strategic environmental assessment"[14], which is the source of a series of objective difficulties in the implementation of the legislation on environmental assessments of strategic documents in Bulgaria. For our study we assume that Ecology is a scientific discipline explaining the interrelations between living organisms and the environment. Today it is seen as a social science , dealing with the relationship between societal development and the problems it causes in the environment. Provided that we consider ecology within the framework of the national space, it is necessary to derive the concept of state policy. State policy is thus understood as the imposition of purposeful actions by state bodies in a set of ideas, principles and concrete actions to achieve certain goals. Policy is determined by objective and subjective factors. State environmental policy is a purposeful activity of state bodies to protect the environment. It is characterized by -always and determined by law and at the same time law is the most important instrument for the implementation of state policy.

Having defined the concept of environmental policy and defined its focus on regional development, it is necessary to define the changes occurring in regional development through environmental change. This also means to bring out the concept of environmental change. Thus, for the present study, we can assume that environmental change is a spatial change that leads to a modification of the quality of life of people related to biodiversity, as well as the imposition of policy to restore natural ecosystems or their optimal maintenance. In alteration, the negative effects are permanent, one or more components are damaged and the quality of life is impaired. Alteration occurs through the accumulation of pollutants. Thus, we can derive an eightfold working definition related to an emission standard. By an emission limit value, we will mean various values for the mass of pollutants and other negative factors that should not be exceeded for one or more specified periods of time.

Thus, in the spatial modelling of the nature of human development, the nature of the contradictions in the system "society-environment-regional development" comes to the fore. It is focused by the need to function an effective regional policy that can solve local and global environmental problems by reflecting on their sustainability in the state of contemporary societal development. In this direction, the management of optads, which is part of the structure of environmental policy, is embedded as an essential frequency of the local public works policy related to the solution of regional development problems. Viewed from another aspect, regional development can be defined as "a conscious activity of society aimed at coordinating and regulating the processes taking place in a given territory in order to harmonise them and create optimum conditions for the work, living and recreation of the population, and the development of the well-being of workers on the basis of increasing the efficiency of social production"[15].

In this direction, it is necessary to derive a working concept of regional development policy. The policy of regional development is based on the implementation of targeted activities and measures impacting socially, economically and infrastructurally in the territorial socio-economic system taking into account the regulatory relations in the national space. In practice, this shows the integrated nature of regional development, which defines the scope of processes such as regional planning, forecasting and programming, as well as structuring the system of regional relations. In this direction, it is necessary to consider the functional characteristics of the development of territorial communities within the national space. In the context, of the scientific research, their distinctive characteristics and properties are summarized. This predetermines the necessity, in order to effectively and efficiently manage regional development, to create mechanisms for ensuring publicity and transparency at all levels, which requires the operation of a unified information system for the management of regional development, which should also include waste management [16].
The unified information system for regional development management includes an integrated information system for strategic planning of regional and local development and an information system for monitoring the implementation of strategic planning documents for regional development. Well-being, with less use of resources, and generation of less waste, is not only possible, but mandatory. A steadily growing world population is increasingly exploiting limited natural resources, which limits development opportunities. Waste, on the one hand, is generated by the use of resources or products and, on the other hand, it has negative effects on the environment as a result of its processing or disposal. Thus, all the strategic and planning documents for regional development include measures and activities that not only take into account the existing protected areas of the adjacent territory, but also offer opportunities for their better management and conservation of natural ecosystems with a great diversity of plant and animal species and habitats, with characteristic and remarkable landscapes, and sites of inanimate nature[17].

Regional development management and waste issues

In the management of regional development in terms of waste problems, the link can be broken between economic growth and the increasing use of resources, with negative impacts on people and nature. This brings with it the demand for the utility of environmental policy. This implies that for the regional development system to function successfully, it is also necessary to implement a waste prevention policy. This policy should lead to the prevention of the negative impact of waste on regional development. It is particularly important to emphasise that the prevention of the negative impact of waste in the regional development system must have a high priority. The greatest environmental pressures arise in the production of a product and it is for this reason that these pressures are reduced by waste prevention measures. In addition, the harmful effects of incineration, transport and storage are also reduced in this way. Ultimately, waste prevention means not generating waste, not producing products that then have to be recycled or disposed of. Different options for waste treatment are always associated with difficulties and environmental burdens. Waste does not simply disappear, but through landfilling and incineration, only changes as a substance. Incineration, for example, even with the most modern technologies, produces emissions and/or residues that must be stored. All landfilling is an interference with nature, and harmful effects on the environment cannot be ruled out. In the best case, the waste is recovered, but even in this case there are pressures due to the use of energy and water. Therefore, the only adequate countermeasure to the waste problem is the action taken to prevent the generation of waste, which is part of the necessary transition to sustainable use of existing resources. It must be implemented in a way that does not negatively affect the economic situation. Thus, for the effective management of regional development, environmental policies need to combine spatial and economic approaches in order to achieve the environmental requirements for the functioning of regional systems.
In this direction, the following should be emphasized in relation to regional development and regional policy:

First of all, the object of study in regional development from an economic hunger point of view is positioned within the scope and content of the regional economy and the governance of territorial communities. Regional development is seen as, a system formed by the socio-economic and natural elements within a given territory, on the one hand, and on the other hand with the intentions and desires of society, formulated in a normative framework and expressed through regional planning and targeted actions by the state towards its regions .

Secondly, the available, complex nature of regional development implies linking the analysis of categories and concepts that set the methodological framework for the implementation of territorial policies, such as forecasting, planning, programming, as well as clarifying the territorial characteristics where there is an interaction of natural, social and economic factors .

Thirdly, the focus of regional policy has different levels, making it necessary to approach individual policies with specific tools. In this direction, waste management also has its focus on the implementation of European Union (EU), national and regional policies in order to achieve effective integrated territorial management[18]. Fourthly, the institutional environment developed has a direct impact on public policies for regional development in political, technological, economic, social, cultural and environmental aspects. At the same time, the purpose of state policy for regional development is to anticipate local development policies in the territory by adapting the relevant institutional environment. In the direction of the "regional development-environment-human resources" nexus, the role of the human factor is often underestimated, especially in terms of strategic planning and management of regional development.

CONCLUSION

Fairness is paramount to achieving this. To a large extent, we can assume that by creating partnerships in the use of EU funds, environmental improvement will be a legitimate outcome. In this area are also the directions for future research on the subject area of the thesis, concerning the study of possible mechanisms for the creation of effective, meaningful and sustainable partnership and teamwork of actors in the implementation of regional development policy. Its successful implementation is an objective need because the results are visible and significant for people, for what their standard of living is and could be if they as citizens, members of NGOs, associations or professionals and administrators express their active position by participating in the elaboration, discussion, adoption and implementation of regional and local development strategies and plans. In this way, all regions will be able to develop their potential for economic and social development and all citizens will feel the beneficial effects of regional policy, regardless of where they live. Nature is our life-support system , so we must look after it. We share resources such as water, air, natural habitats and the species that live in them, as well as environmental standards for their protection. In this direction, environmental policy and waste management, respectively, are part of regional development management and need to be further studied and made an essential priority of territorial development. Solving a series of severe environmental problems that are not only global but also regional in nature. The issues related to environmental protection and the tendency towards the further consolidation and implementation of the concept of sustainable development is the main factor that also determines the place of waste management in the field of regional development and requires a new strategic approach to the enforcement of integrated management.

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TRENDS IN THE REGIONAL DEVELOPMENT OF THE WINE INDUSTRY IN BULGARIA

ABSTRACT

This article is an attempt to bring the wine sector as one of the alternatives for rural development in Bulgaria. The introductory part presents a simple global picture with the development of the wine sector and the opportunities for countries like Bulgaria to develop the wine industry. Justifies the development of viticulture in Bulgaria and its zoning, as well as an overview of available varieties and species. The capacity and condition of the wine industry is shown, outlining its specifics and features. In methodological terms, the article presents the importance of the wine industry on the territorial development of Bulgaria. The institutional side of the formation of the regional institutional and economic model of development of viticulture and the integration of Bulgarian producers in it is substantiated. The tendencies in the development of viticulture and its economic expediency in general European plan are outlined. The need for the wine sector to influence the regional development, respectively the development of the rural areas is stated. Relevant conclusions have been made, which outline the main challenges facing the industry. Relevant conclusions have been made and new trends for the development of viticulture in Bulgaria have been outlined.

KEY WORDS

viticulture, winemaking, development, management, modeling, region, rural, economy

INTRODUCTION

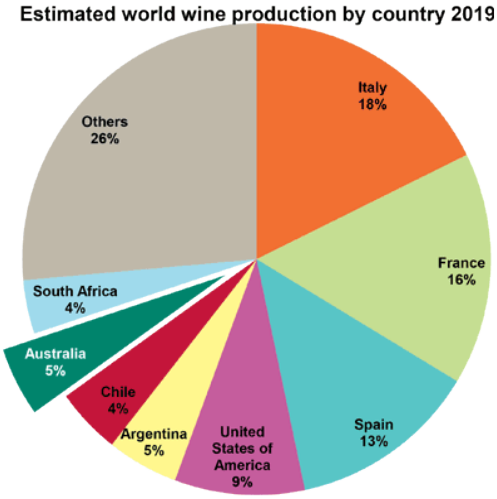
In today's world, as electronic technology advances, the Covid-19 pandemic presents humanity with new challenges, more and more environmental problems are flooding us, and the world is facing new challenges. In addition to the challenges mentioned, the new geoeconomic realities focus global development on food issues. This presupposes in spatial terms the individual regions of our planet to be restructured in such a way as to improve the ecological picture and to successfully solve the problems with the nutrition of the population. In this regard, the focus of our study is focused on the Bulgarian state as part of the European space and highlighting the possibility of the wine sub-sector to expand its added value in the national economy. Like Bulgaria, the wine sector may develop in countries such as Serbia, Northern Macedonia, Croatia, Greece and Romania, which have similar

problems in the wine sector. We must be clearly aware that the development of the wine sector at European level can be more important for the development of local economies by expanding the scope and economic activity. Additional application of the viticulture industry can be found in the tourism industry, food and chemical industries, pharmaceuticals and perfumes and cosmetics. This aspect of the development of the wine sector is an opportunity to give new potential to large regions in the European space, which are defined as rural regions in a depressed socio-economic situation. In the European Union, the problems in rural areas regarding their regional development are deepening and their solution is passing through the development of such industries as viticulture. It is worth noting that the EU's rural areas are home to 56% of the Community's population, covering 92% of the Union's territory [1]. We can add that around 19% of the EU population lives in 'predominantly rural areas' and 37% in 'predominantly rural areas'. In these areas, 45% of gross value added is created and 53% of jobs in the EU-25 are located there. At the same time, however, rural areas lag significantly behind in a number of socio-economic and infrastructural indicators compared to urban areas. In practice, to illustrate these processes, we will focus our presentation on the territory of Bulgaria, because this country is part of the European space and since the early 90s of the twentieth century has undergone socio-economic changes that allow us to see the dynamics of the change in the wine sector in recent years. The Bulgarian state has been part of the European Union since 2007 and it is expected that with the help of European funds in the period 2007-2021, it will achieve significant regional economic development. In practice, however, the country is experiencing serious difficulties in adapting to European markets. Thus, at the end of 2020, it is the poorest country in the European Union with increased regional contrasts in the territory, a demographic collapse in most regions of the country [2]. This gives us reason to determine the purpose of this study to determine the opportunities for rural regions and in particular in those regions where there are conditions for the development of the wine sub-sector to improve development and form a new sectoral profile of these regions. This means assessing and analyzing the opportunities for the wine sector to take its rightful role in the regional development of Bulgaria. On the other hand, bringing the wine sector to the forefront means undertaking a number of government policies and activities to support development and investment in the wine sector. This presupposes the introduction of a new approach and framework of the conducted policy for regional development in the field of viticulture related to the promotion of economic activity of the population, as well as measures to improve the condition and varietal structure of vineyards without significantly expanding them. It is necessary to identify activities that will promote local economic development and create conditions for achieving a new orientation of the sub-sector towards the production of quality wines and the development of related industries. The development of the wine industry within the rural areas of Bulgaria will be able to bring to the fore the accumulation of experience for targeted impact on underdeveloped regions within the European Union. In addition, with better implementation of the policies for the development of the wine sector, it will be able to develop a methodology for the development of other regions in the European area related to the wine industry. As well as the opportunity to compare it with the production of beer or see the importance for rural development. [6].

The competitive environment of the wine sector in global and European terms

In the 21st century, the competitive environment for wine and wine production is at a very high level. Citation of experts shows that there is a serious competitive environment in viticulture, for example Figure 1 shows that half of the world's wine is produced from Italy, France, Spain and the United States, but nearly 26% from smaller producer countries. This shows that there is an opportunity for small producers to compete with world leaders in wine production. In practice, the emergence of new and unexpected countries such as Bulgaria have the opportunity to improve wine production and the high quality of wines produced and the development of related industries.

Figure 1: Global wine production share by country 2019



Source: OIV (https://www.wineaustralia.com/news/market-bulletin/issue-183|

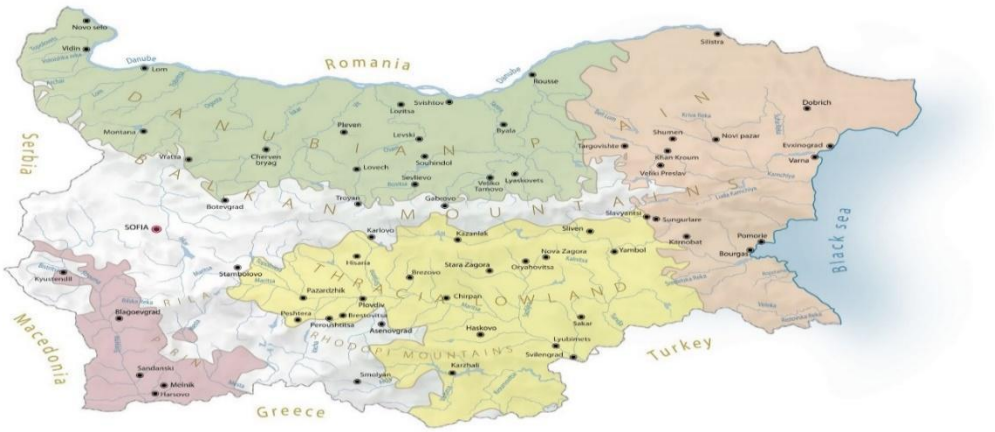
In 2020, despite the Covid-19 pandemic, world wine production in 2020 is estimated at 260 million hectoliters (Mhl). This is an increase of 1%, almost 3 Mhl, compared to 2019, according to the International Organization of Vine and Wine. However, the data from 2019 are important given that we do not yet have a pandemic crisis. It can be assumed that the wine sector after the end of the pandemic has every reason to develop further and, if possible, to expand its geography. According to experts, in 1990 about 78% of world wine production came from Europe, in 2000 it fell to 71.5% and now to 67%. In return, the share of wines from Asia and Oceania has increased from 1.5% and 1.6% to 5% and 5.4% over the last ten years [3]. In fact, by 2020, just over 45% of the world's wine-growing regions are located in the European area. Within the European Union, 65% of wine production, 57% of world consumption and 70% of world exports are concentrated, which determines local wine production to develop in a highly competitive environment (national, European and international). More than 200,000 are direct jobs in the EU created by the viticulture and wine sectors. This general picture of the development of viticulture shows that there is strong competition within the EU on the one hand, but on the other hand European wine producers can be leaders in the development of this industry. According to Eurostat, in 2019 the European Union produced wine (including sparkling wine, port and grape must) nearly 16 billion (billion) liters. The largest wine producers are Italy, Spain and France, followed by Portugal, Germany and Hungary. In recent years, there has been an increase in the area under vines in France (794 kha), Italy (708 kha), Portugal (195 kha) and Bulgaria (67 kha). The area of vineyards in Spain (966 kha), Hungary (69 kha) and Austria (48 kha), on the other hand, decreased slightly compared to previous years [4]. These data show that the wine industry has its dynamics within the European Union. In addition, the use of wine for other industrial purposes (including the production of vinegar and vermouth) can be estimated between 9-12 Mhl in the European market during each campaign. Also, estimates from outside Europe, including South Africa, Argentina and Chile, use just over 3 Mhl per campaign for distillation and other industrial purposes. The sum of other parts of the world shows that the industrial use of wine worldwide can be estimated at about 32 Mhl per year [5]. In this direction, it is clear that the wine sector has its potential for development and the creation of new industrial production in individual industries for which it can be a raw material. This means improving the quality of wines produced, not only on the basis of cultivated varieties, but also on the basis of modernization of the technologies used in wine production. Creating all the necessary conditions for a closed production and distribution cycle along the integrated chain - viticulture - wine production - wine tourism in order to reach the end customer with the final product. In addition, it is necessary to create quality staff in the wine sector. This means training of highly specialized vine growers and wine experts, agronomists

specializing in the cultivation and pruning of vines and technologists, specialists in the production of high quality wine. Training of highly specialized vine growers and wine experts, agronomists specializing in the cultivation and pruning of vines and technologists, specialists in the production of high quality wine. Here is the place to emphasize that the wine sector has its prestige and it can play a significant role in the development of the regions. It has a social role to play in rural and less developed regions, which face serious problems such as depopulation, population aging, high unemployment and poverty. In essence, there is scope for local development in these areas, and in addition to wine, beer or other spirits can be produced [6]. The wine sector can have an impact on local life, contributing significantly to society from a socio-economic and environmental point of view. The construction of vineyards favors the landscape, provides significant employment, helps to improve the quality of life and preserve local identity. The changing economic environment is also a challenge, efforts to invest at all stages of production and modernization of vineyards pose daily challenges to organizations in the sector and they are often related to the qualification of human resources. In this direction, within the European Union, it is necessary for the development of new programs that are specifically targeted at backward and rural areas, to support the processes of socio-economic development. Precise viticulture involves collecting a large amount of data and summarizing them in detailed scales thanks to various tools - satellite images and sensors that track various indicators such as climate, soil, ultraviolet rays and more. These new technologies also require new competencies, and hiring qualified staff is key to the effective existence of organizations. There is potential for employment in economic activities related to wine production, such as wine trade and marketing, production of oak barrels, bottles, labels, capsules, corks, etc., development of wine tourism (hotels, bars, restaurants, etc.), wine distillation, production of wine spirits and wine by – products [7]. The modernization of the sector and its sustainable development, as well as the market presence of the products produced, will certainly contribute to reducing regional disparities within the European area.

Features in the structuring of the wine industry in Bulgaria.

The wine industry in Bulgaria has its own tradition and development. It is called to influence local life, contributing significantly to society from a socio-economic and environmental point of view. Based on the national and expert assessment, as can be seen from Figure № 2, the Bulgarian area is divided into five wine regions. These are North, South, East, Sub-Balkans and Southwest.

Image 2 The separate wine-growing regions in Bulgaria by 2020



Sources: https://lozaivino.org/

In the structuring and division in some areas smaller sub-regions are created. For example, the Eastern wine-growing region includes most of Strandzha, the Black Sea coast, Dobrudja, parts of the Eastern Stara Planina and Ludogorie, which makes it very diverse in grape production. Other regions also have their own specifics and features, which are expressed in the presence of different and diverse grape varieties. The main problem in Bulgaria in recent years is the creation of young vines. The emerging shortage of young vines is not enough to replace the old ones. All this leads to a decline in wine production. This decline is both in quantitative terms (over 3 times for the period 2000 - 2019). and in qualitative terms. Although the number of registered wine producers in the country is more than 300, and the number of grape producers is even ten times higher, the reported decreases in the volume of production and quality of wines are significant [8]. This finding shows that the wine sector in Bulgaria needs reforms and the implementation of new policies to improve its competitiveness.
In addition, given the demand for world development in line with the "green deal" for countries such as Bulgaria, the further development of the wine sub-sector may be a significant alternative that would bring a new sectoral focus of the country's regional economy in wine-growing regions. In addition, the appropriate natural and climatic conditions in the country, the technologies for production and processing of grapes improved over the years, the selected varieties and the rich traditions are prerequisites for good competitiveness of viticulture on the domestic and international market [9]. The Bulgarian state needs to turn to the development of viticulture, which will create additional employment in rural areas and new productions that will promote regional development throughout the country. It is important to mention that competition, both in the market and climate change, confronts businesses with the need for quality process analysis and a more focused investment process. That is why it is crucial for economically active people in the wine industry to properly structure their business model in order to realize their investment intentions, so that they can forecast and control their cash flows over time.

The importance of the wine sector for sustainable development of the regions in Bulgaria

The pulling socio-economic development of countries like Bulgaria on the basis of new geoeconomic challenges also implies the development of sectors and industries in which countries have traditions and opportunities to achieve sustainable results. In this direction, bringing to the forefront of the wine sector creates primary and secondary effects on the socio-economic development of the regions and on their ecological status. In the last few years, in many parts of the country, viticulture is the main or only industry that guarantees employment for the local population and is the engine of regional economic development [10]. Achieving competitive production directly affects employment, profitability and the development of related industries. Secondary effects can be sought on the reduction of migration flows, leading to depopulation of rural areas, attracting investment, development and valuation of the cultural and historical heritage of individual regions in the production and trade of wine. In addition, through the development of viticulture, opportunities can be sought for development and the perfume market. At the regional level on the basis of viticulture to create and related industries and production, driven by consumers and dictated by fashion and cosmetic trends. This determines the possibility of viticulture to acquire a purely regional character and, depending on the individual territories to develop its three pillars - economic, social and environmental; productivity of production factors. It is important to note that the development of the varietal structure of Bulgarian viticulture is not dynamic. On the other hand, it affects the changes in the wine varieties in demand on world markets, but must also take into account changes in climatic conditions that pose new challenges for Bulgarian viticulture. It is important to note that in general Bulgarian vineyards are older. The inspection of the vineyards in the period 2015-2018 shows that the old vineyards still predominate. This structure is evident from Table №3, which shows the importance of the different types of varieties.

Table 1Age structure of vineyards in 2017-2019

Color of the nipple	Age structure (years), in ha				Area total (ha)
	to 3,	between 3 and 9	from 10 to 29,	30 and more	
White	1665	4812	1793	16943	25 213
Red	1229	6325	5037	20403	32 994
Other color	440	536	192	181	1 349
Total	3334	11673	7022	37527	59 556
White	49,95%	41,22%	25,5%	45,1%	40,48%
Red	36,86%	54,18%	71,7%	54,4%	54,28%
Other color	13,19 %	4, 60 %	2,7%	0,5%	5,24%

Sourse: Ministry of Agriculture, Agrostatistics Department

It should be noted that in the period 2018-2021 efforts are being made to rejuvenate a number of vineyards, because the areas with young vineyards are not enough to replace the old plantations, which is naturally reflected in reducing the size of productive vineyards and increasing the size of unmaintained vineyards. farms. In the future, this may affect the grape varieties and the development of existing vineyards. In this direction, for the needs of regional development in Bulgaria, we can highlight the production of grape varieties in individual wine-growing regions and regions. For example, the production of "Muscat Otonel", "Gamza", "Cabernet Sauvignon", "Merlot", "Chardonnay", "Aligote" and "Pamid" is specific. It mainly develops in the central and western part of the Danube plain [11]. This area mainly produces dry white wines, sparkling wines using classic technology and quality red wines, which are characterized by a rich fruity aroma and fresh taste. The Black Sea region is also important, covering almost 30% of the vineyards with a concentration of about 53% of white grape varieties. The varieties "Dimyat", "Riesling", "Uni Blanc", "Muscat Otonel", "Traminer", "Sauvignon Blanc", which gives excellent quality grapes, are important in it. This region produces some of our best dry and semi-dry wines, which combine a pleasant fruity aroma, rich taste and elegant freshness. The next important region is that of the sub-Balkan valleys, better known as the Rose Valley. It is divided into East and West and extends south of the Balkan Mountains. On the southern slopes of the Balkan Mountains and in the valley between it and Sredna Gora, the varieties "Red Muscat", "Riesling", "Rkatsiteli", "Cabernet Sauvignon" and "Merlot" are grown. It produces mainly white dry and semi-dry wines, less red and aromatized wines. The wines have a characteristic pleasant fruity aroma, fresh and harmonious taste. Those from the local variety "Red Muscat" are one of the best representatives of white wines in our country and are characterized by a rich fruity aroma, elegant body and delicate, memorable aftertaste. The Upper Thracian Lowland wine region, which is located in southern Bulgaria with a typical temperate-continental climate, including the central parts of the Thracian Lowland and parts of the Sakar Mountains, also has a strategic role. Most of the red grape varieties are concentrated in this area. Mavrud, Merlot, Cabernet Sauvignon, Red Muscat, Pamid and others are grown. The climatic conditions of the area, protected from sharp northern winds, favor the production of rich, dense, memorable red wines from the Cabernet Sauvignon and Mavrud varieties. The other key region is the Struma-Local Region. This area includes mainly the southwestern parts of the country. It is not large in size, but has specific climatic features that bring it closer to the Mediterranean areas. The local varieties "Shiroka Melnishka Loza", "Cabernet Sauvignon" and "Merlot" are grown in the valley of the river Struma. The resulting wines are characterized by warm southern tones in the aroma, with fullness in taste and richness of general impressions [13]. We can summarize that in the formed 5 wine regions in Bulgaria there are nearly 64 thousand hectares of vineyards, which can be seen from table №4. Nearly 50,000 hectares are grown on agricultural holdings and nearly 15,000 hectares on private farms. This

potential of the vineyards at this stage is sufficient to create conditions in Bulgaria for the sustainable development of this sub-sector. In the last two years it is planned to increase the vineyards by nearly 3,200 hectares, which by 2022 makes them nearly 67,320 hectares. Of course, according to expert estimates, it is estimated that about 4,000 hectares of vineyards are virtually deserted, but are managed as cultivated by individual owners.

Table 2 The vineyards in the Republic of Bulgaria

Year	Areas with vineyards on farms	Vineyards outside agricultural holdings	Total areas with vineyards
	Hectares	Hectares	total in hectares
2018	50 727	13 673	64 400
2019	50 100	13 912	64 012
2020	47 00	16 646	63 647

Source: MAF, Department of Agrostatistics - survey "Monitoring of grape and wine production - harvest "2020"

It is important to note that so far the measures for the development of the regions are not yielding the necessary results. In practice, as a member of the European Union in the Bulgarian state has the opportunity to receive funds from programs to support and develop the wine industry. The Rural Development Program in Bulgaria has an important role in this area. In this direction, in recent years' conditions have been created for the reclamation of nearly 10 thousand hectares of vineyards, experimental fields for new varieties and cultivation of obsolete vineyards have been created. The result of these activities and measures is not good, although such measures are justified when we see the condition of the vineyards by planning regions in Bulgaria. Spatially, the available vineyards are located mainly in less populated regions, with the exception of the South Central Planning Region. This affects the model of regional development in the country and especially the productivity in the Bulgarian wine sector, although the new production facilities are high-tech and the workforce is not large. However, the reduction of the quantity and larger arrays becomes the main prerequisite for the formation of its overall efficiency. It is presented through the dynamics in the values of the efficiency ratio, expressed as the ratio between total revenues and total expenditures generated at the sectoral level on an annual basis in the individual planning regions and their municipalities in Bulgaria. In this direction, in order to develop the wine industry, it is necessary to better plan and forecast the ongoing processes, which in Bulgarian conditions is very difficult. Separately, the investments already made in technologies, additional productions and capacities, as well as the expansion of the production sphere have the necessary regional distinctiveness. On the other hand, viticulture has its difficulties and problems that are not solved in time and this creates instability in its development. The business in this sector has all the prerequisites for it to continue investing and to be successful, provided that the state establishes lasting rules and regulatory framework for its development and management. In practice, the wine industry needs a new type of programs, contractual financing and leverage for the management of individual projects with all their sustainable development [12].

Research Methodology

The current study assumes that the business environment is complex, changeable, imperfect and requires the state to set mechanisms for the development of the wine sector. In addition, the public sector lags far behind in terms of refining regulations and managing ongoing processes in the wine industry. In this direction, the study of the behavior of wine enterprises is not essential if there is no optimal environment for their operation. In this direction, the spatial approach means to determine at the territorial level the factors that make up the business environment [12]. The necessary focus is on competitiveness in the wine sector. This requires us to perceive the peculiarity of viticulture as a process that is determined by changes in the business environment. In order to monitor whether all requirements are met, a vineyard register is maintained and operated in Bulgaria. In practice, the development of the wine sub-sector is in line with European regulations, which define the organization of the wine and wine market by complying with the country's commitments under

Regulation (EC) №479, which amends Regulation (EC) №1493/1999. The main objective of this Regulation is to increase the competitiveness of European Community wine producers and to enhance the reputation of quality wines. An important place in this regulation is occupied by measures that promote the development of competitiveness as part of national support programs to enhance the competitive environment. In this direction, our rural areas are underestimated, which in turn creates an opportunity for them to develop this industry [14]. In addition, creating a business environment in rural areas is an opportunity for local communities to profile regional development in an area that has its own environmental focus. In addition, it will allow rural areas to develop competitive productions based on the development of the wine sector. Here is the place to note that competitiveness is a complex social phenomenon that can be considered in socio-economic, political and environmental aspects, and in our case in purely regional and local terms. Thus, for rural areas, promoting development and competitiveness can be a major driver of social development, removing anything and everyone who cannot adapt to market demands. It is a higher form of knowledge and ability to adapt and dominate the market, leading to economic and social prosperity. Competitiveness is determined by a combination of different competitive factors [18]. These factors are resources, knowledge, experience and motivation for their use in a given market situation, which can set the pace of rural development in Bulgaria. The development of the wine sector can develop the local initiative to create an economic environment that meets the needs of its staff and consumers of its goods and services. Competitiveness in rural areas may be the main mechanism for ensuring economic growth and employment. From a political point of view, it can be argued that the framework for the development of a more targeted wine sector, both at the macro and micro level, can be a function for pulling regional development of more than 150 Bulgarian municipalities. The policy in the sector must have its liberal, but also competitive basis. In the political aspect, competitiveness is formed and developed taking into account the interest of stakeholders. Very often the interests of the stakeholders in the wine sector contradict each other when there is no clear vision for development and transparency in the management of the sector.

Table 3 Development and yield of the wine-growing sub-sector in the period 2015-2019

Year	Registered areas with varieties suitable for wine [xa]	Yield [kg / ha]	Produced quantities of grapes [t] for vinification under industrial conditions	Price [BGN / t]	Unit price [BGN / kg]
2015	599 880	670,20	195 860	589,97	0,59
2016	604 180	577,70	173 503	605,24	0,61
2017	605 830	581,90	165 818	561,89	0,56
2018	612 470	621,40	151 938	594,62	0,59
2019	608 620	588,00	129 311	545,17	0,55

Source: NSI, EAVW and MAF

This leads to decisions and regulations of the sector, which give precedence to the interests of one group of actors in the value chain at the expense of another. In other cases, a consensus can be reached that satisfies all parties, but does not allow for the development of sectoral competitiveness, taking into account market trends. It must not be forgotten that the market is that element of the system which removes unadaptable players in the industry free of charge and rationally. Any government intervention distorts this mechanism and makes it subjective, working a certain group of stakeholders, the price being paid by all. Politically, competitiveness still remains misunderstood as a process and phenomenon in human life, leading to its unsustainable and volatile development [13]. In

environmental terms, competitiveness is associated with understanding the specifics and functioning of ecosystems. This predetermines in methodological terms to assess the capacity of the Bulgarian wine production. Table 3 shows that the wine sector has its own patterns and features that do not allow it to show a lasting trend. In practice, this corresponds to the fact that in recent years in Bulgaria there has been no significant change in the structure of cultivated varieties. The ratio of cultivated and harvested white and red wine varieties remains relatively constant. In 2015, 57% of the areas were red wine varieties. Of these, four main varieties are of leading importance - Merlot, Cabernet Sauvignon, Pamid and Shiroka Melnik vine. Going back to 2001, when the Pamid variety occupied about 35% of all areas with red wine varieties, in 2009 and 2015 it occupied 20% of the area and was third among the most popular for cultivation. The Merlot variety is in first place, followed by 1% of Cabernet Sauvignon in 2015. Interest is also observed in other red varieties - traditionally grown Mavrud and Gamza, and in recent years there has been increasing interest in several non-traditional varieties for Bulgaria - Syrah, Cabernet Franc and Pinot Noir [15]. This is dictated by the demand from winemakers who rely on modern and sought after on the world market varietal wines. The white wine varieties also have a relatively strong concentration - 75% of the areas are occupied by 5 main varieties in 2001 and 2009. Over the years, a certain dynamic has been reported, which leads to even greater concentration, as in 2015 these 5 varieties make up 90% of the varietal structure of the areas. These most common varieties are Rkatsiteli, Muscat red, Muscatotonel, Chardonnay and Dimyat. The areas with Sauvignon Blanc are also increasing. Although the percentage of varieties remained the same during the three years under review, the areas expressed in ha changed significantly [16]. The age structure of the vineyards is also an important indicator for assessing the potential for development of viticulture in Bulgaria. Unfavorable is the fact that both white and red wine varieties have a larger relative share of vineyards over 30 years old.

Table 4 The age structure of the vineyards in Bulgaria as of 2017

Age structure Areas (ha)% of the total area	Age structure Areas (ha)% of the total area	Age structure Areas (ha)% of the total area
up to 3 years	2481,1 4,1	4,1
from 4 to 10 years	5588,3	9,2
from 11 to 29 years	11646,5	19,2
Over 30 years	40867,3	67,5

Source: Executive Agency for Viticulture and Enology (EAVW)

In the Bulgarian conditions the development of viticulture has its important periods and processes. First of all, the socio-economic change since the early 1990s, when the state liberalized the sector and most state-owned enterprises were privatized. In practice, however, this process complicates the development of viticulture, on the one hand the lack of sufficient financial resources to adapt the industry, and on the other hand the gradually changing environmental conditions [18].

In the wine sector, the factor determining the variability of enterprises is competition. It is a permanent mechanism for removing the insufficient and the unadaptable. The main requirement for achieving a competitive state of a system is to ensure its adaptation to changes in the environment. The environment creates conditions for uncertainty, threatening the sustainable state of the system. This requires the wine sector to be environmentally friendly - to save natural capital and create opportunities for its preservation for future needs. The wine sector is a production system created and managed by man in order to produce and trade products necessary for his survival. Increasing the productivity of the sector leads to simplification and standardization of production. This requires the use of a new management approach, relying on the experience of natural ecosystems to achieve a competitive wine sector, by maintaining diversity in the ways of doing business processes of business organizations in their participation in the network of values. In practice, it is necessary in the assessment and analysis of economically active persons in the wine sector to assess the comparative advantages of finished products through indicators such as the Export Advantage Comparative Index

(RXA), market orientation coefficient (CS), commodity production ratio, the value of the commodity production in the sector, the value of the total production in the sector and others, which provide equipment to carry out a comprehensive analysis of the state of the wine-growing sub-sector [14]. In this direction, the problem of restructuring and zoning of the wine industry is also important. The differences in the natural and climatic conditions of the different districts of the country lead to differentiation of the parameters, characterizing the production potential of viticulture, as well as to the presence of territorial peculiarities in its specialization and concentration. Zoning in the wine sector of Bulgaria is an important prerequisite for the development of modern viticulture and increasing the efficiency of production and marketing of products. The zoning is a territorial distribution of the vine varieties, as the aim is to provide a good terroir - the most suitable soil, relief, climatic and economic conditions for cultivation [17]. The first modern zoning in Bulgaria was made in 1951, with a decree of the then government, according to which the country was divided into North Bulgarian, Rila-Rhodope, Sub-Balkan, Black Sea and Melnik wine regions. In the following years, a comprehensive study of the wine-growing regions, vine collections and soil-climatic conditions was carried out, and the most suitable varieties for them were determined. Based on many years of research on the combination of natural and climatic conditions, technological characteristics and agrobiological properties of vine varieties and experience gained in the process of grape production and processing into wine, 4 wine regions are distinguished: Eastern, Southern, Northern and Southwestern. and a total of 116 neighborhoods. At the beginning of the 21st century, 5 wine-growing regions have been identified. The territorial scope of the wine-growing regions is determined on the basis of the administrative-territorial division in the country. The exact scope of the wine-growing regions is clarified in the Ordinance on the terms and conditions for establishing and maintaining a register of vineyards and a specialized map of vineyards (2005), which lists the specific municipalities within the relevant wine-growing regions [15]. The regulations affect both the areas and varieties of vineyards in each Member State and the quality standards of wine production. On the other hand, this allows the extraction to be used for the needs of other sub-sectors and industries. The importance of viticulture for the country's economy is also reflected in the state's policy. With the adoption of the National Strategy for Development of Viticulture and Wine Production 2005-2025 and the National Strategy for Sustainable Development of Agriculture of the Republic of Bulgaria 2014-2020, the state declares the importance of the sector for agriculture [16].

Features and phases in the development of the wine industry in Bulgaria

The wine sector faces the need to analyze the strengths and weaknesses of farms. The analysis in the development of the sector shows that the wine industry is difficult to define as a major in the development of the individual region by local business. For the most part, this business is perceived as an opportunity to export finished products mainly to foreign markets. Careful review shows insufficient use of opportunities to conquer new markets for organic and delicate products, diversifying consumer preferences and on this basis positioning new branded wines, as well as exploiting opportunities to participate in the national wine market. Another important point is the low competitiveness of our producers, as is the cost of labor of technologists and workers in the wine industry. Weaknesses are still great in the development of wine tourism. To a large extent, sustainable strategies for the development of wine tourism are still lacking at the regional level. In this direction, it is difficult to integrate the wine industry in local economies, which hinders their integration into common tourism policies. In recent years, it has been proposed for the development of rural areas to impose a cluster approach that will allow the development of the right development strategies, respectively to structure sustainable investment programs to follow [14]. For economically active people at the regional level in the wine industry it is necessary to achieve strategic differentiation, largely related to the selection of individual vine varieties, as well as opportunities for their rational use not only in wine production and related production. This process is related to its development, programming and planning. The business planning process takes place in the following phases: The first phase outlines the need to choose a product to be produced by the company. Each product is a

carrier of value if it satisfies a certain need of the customer. For this purpose, during this phase, market segmentation, selection of market segments and positioning of the company's products are performed. The second phase involves determining the prices, quantity and quality of manufactured products and methods of distribution. The third phase involves product advertising. The purpose of strategic planning is to form, model and change the model of the business enterprise and its products so that it can realize satisfactory profits and growth. The specific characteristics of this type of planning are determined by three key ideas: profit centers, profit potential and strategy. The object of strategic business planning is the wine enterprise [15]. This is an economic and organizational form of concentrating the means of production that the labor force uses for production. The wine-growing enterprise can be characterized as an independent, legally, economically, organizational-technological and territorial organizational-economic form, which in a certain way combines the elements of the production process, depending on the goals and objectives. in front of the economically active person. Modern market reality puts companies in a highly competitive and dynamically changing environment in which they must fight to survive and increase the efficiency of their operations. Given the fact that logistics is a key element of globalization of markets, the formation of supply chains is an important factor for the survival of companies. Their survival depends on their ability to constantly adapt to the changing environment and maintain their competitive advantages over other market participants. It is necessary to look for opportunities for optimization of business activities related to the production chain, supply and sale of products, such as optimization and control over supply and distribution. In this direction, it is important in territorial terms where it is good to develop enterprises in the wine sub-sector. This is often related to the objective picture at the macro level (region, district, municipality) by analyzing the population density indicator. It is assumed that municipalities with a population density below 20% are the municipalities most at risk of depopulation. At the micro level, this certainly affects the development of the wine sector in areas and lands at risk of depopulation, mainly including settlements of up to 100 inhabitants or those without population. This gives us reason to seek and implement specific regional development policies related to the wine sector, especially the creation of a model for evaluation and analysis at the level of planning regions. Through this model, opportunities will be sought to preserve the potential of a wine-growing region by creating a gravitational model of management and connectivity between vineyards and settlements. Table 5 shows the available vineyards by planning regions in Bulgaria.

Table 5 Available vineyards by planning regions in Bulgaria by 2020

with vineyards in Statistical regions	Areas with vineyards on farms	Harvested from them	Relative share
	Xa	Xa	%
Northwest	4 113	1875	45%
North Central	2490	1241	50%
Northeast	4303	2524	59%
Southeast	15 345	9907	65%
South central	17608	10817	61%
Southwest	3122	2380	76%

Source: MAF, Department of Agrostatistics - survey "Monitoring of grape and wine production - harvest "2020"

The distinction by planning regions shown in Table № 5 of wine producers can help to purposefully include the wine industry in a number of strategic programs and projects related to the implementation of regional development policies in Bulgaria. In addition, Bulgarian winemakers will have higher opportunities for access to funds, which will make them competitive, which will reflect on the brand image, consumer connectivity and production differentiation. Of course, in regional terms, some regions will give better results, while others will lag behind, but this will arouse

competition. It is important to point out that by 2022, perhaps the South Central Region and the South-East Planning Region have the necessary conditions to develop the wine-growing sub-sector in terms of demographic potential and professional competencies. In the South-West planning region, the opportunity for the development of viticulture is available only in part of the region, but with the right investment, a number of ancillary productions can be created. The difficulty in the South-West region is the lack of sufficient staff and the emerging problems of a technological nature, mainly due to the reduced investment interest in its periphery. In this region, the city of Sofia as the capital has a centrifugal role, which collects the entire investment flow within a radius of about 30 kilometers around it. Thus, the periphery in the Southwestern region, including the area with a gravitational potential of 50 to 150 kilometers around the city of Sofia, has entered a depressed economic state and so far finds it difficult to attract investment, especially to develop its viticultural potential. Socio-economic development also reflects on the development of the wine sector in the North Central Planning Region. It should be noted that viticulture has its own tradition and capabilities, but it is necessary to achieve balanced sustainable development in the North Central region. This means supporting some rural cities, which are centers for the development of the wine sector, through the instruments of regional development policy, as well as providing public and business services for the population living in smaller settlements in rural areas. Such are the cities such as Strazhitsa, Pavlikeni, Elena, Tryavna, Tutrakan, Kubrat and Isperih. Moreover, in this region cities such as Lyaskovets, Suhindol and Svishtov have a lasting tradition in the development of viticulture. Special support programs need to be set up to make these regions more attractive for people to live in and to develop the regional economy. This can be done by expanding the economic, social and administrative functions of these cities. It must work to stabilize the demographic processes in them by limiting the depopulation of small settlements by giving new meaning to the wine industry, as well as fruit growing, and why not Ferrer livestock. Programs for the development of viticulture and other related branches of agriculture can be adapted. The situation and the development of the wine sector in the North-West planning region are particularly difficult. The development of these cities and other cities of local importance, which have the potential to attract non-agricultural investment or use the agricultural potential of the surrounding areas (as a market and place for processing agricultural products), stimulates the development of surrounding settlements. Measures are needed in these municipalities to support backwardness in socio-economic development and living standards. Municipalities such as Boynitsa, Gramada, Dimovo, Kula, Makresh, Ruzhintsi, Apriltsi, Vulchidrum, Georgi Damyanovo, Metkovets, Chuprene, Chiprovtsi and Yakimovo have similar problems, which gives grounds to be placed in a single category of "problem areas". They are characterized by low population density inhabiting these areas, unsatisfactory accessibility and accompanying economic backwardness, low level of access to important social (institutional) services. The situation is similar in the Northeast Planning Region, where strong tourism potential and development of agriculture. In practice, the Northeast region has significant potential for the development of viticulture and related industries, but does not have the necessary educational and research and development activities to set priorities in this direction. Cities such as Balchik, Kavarna, General Toshevo, Veliki Preslav, Popovo, Targovishte and many of the larger villages can become major centers of the wine industry. In conclusion, we can say that at the level of planning regions it is necessary to apply an integrated approach to planning the regional and spatial development of the regions. The development of sub-sectors such as viticulture can help promote regional development in response to the identified needs and potential for rural development in Bulgaria. It is necessary for the state to direct measures and policies in this direction, which should be coordinated and provide for interaction with the factors, conditions and potential for the specific development of the region, the network of settlements and individual sectors of the economy.

Trends in the development of the wine sector in Bulgarian municipalities

In practice, the development of the wine sub-sector is of strategic importance in 55 municipalities in Bulgaria. The country's membership in the EU and the implementation of the Common Agricultural

Policy (CAP) creates an opportunity for the development of the wine industry in at least 120 more municipalities. of specialization, concentration and integration. Viticulture is an important sector for Bulgarian agriculture, as Bulgarian producers have experience and traditions in the cultivation of vineyards and grape production, as well as in wine production. However, the current socio-economic conditions pose a number of challenges to the wine sector in Bulgaria, complemented by difficulties related to the biological nature of grape production. It is a fact that the derived social role of the sector in rural municipalities facing serious problems such as depopulation, population aging, high unemployment and poverty. The wine sector has an impact on local life, contributing significantly to society from a socio-economic and environmental point of view. This is because the vineyards favor the landscape, provide substantial employment, help to improve the quality of life and preserve local identity. Vineyards are characterized by low stocks due to the small size of vineyards that cultivate small vineyards with diverse varietal composition. As a result, the raw material base in the sector is diverse in variety composition and quality [13]. Wine production needs large batches of homogeneous raw materials to enable large-scale production to take place and to use the "economies of scale" effect, a major source of competitive advantage in a highly price-intensive market. The seasonality of viticulture requires the allocation of significant financial resources during the grape harvest, while the use of imports and wine and cognac materials in production determines easier financial planning. Experience has shown that the sectoral specialization of wine regions shows that region specializes in the production of red and white table wines. At the same time, the Southwest Planning Region specializes in the production of red quality wines. The specialization of the Northeastern wine-growing region, which is oriented towards the production of quality white wines, is similar. Bulgaria clearly stands out on the world market as a country traditionally developing exports of bulk wine (which has low added value). As a result, the market orientation of the branches of the wine sector has been declining in recent years. Only 63% of the produced quantities (for 2018) are sold on the international market from the production of quality and table wines. Only 50% of the production of special wines. This determines the relatively low commodity value of the industries, measured on the basis of exports of products produced by them. The reasons for this are the high size of domestic wine production, which consumes more than half of the raw material - a product of viticulture. The export of bulk wines, in which Bulgaria specializes within the EU, requires quality raw materials, which are grape products (grapes or grape must), the result of viticulture; - Bulgaria, in the conditions of the common agrarian policy of the EU has specialized in the export of bulk wines. Exports of bottled wine are not as competitive, as Bulgarian bottled wines are mainly sold in the low price segment, where competition is fiercest. The links between viticulture and wine production have not yet been clarified in order to increase the sector's competitiveness [16]. The vineyards that provide the raw material base have a low return on investment, which stops their expansion and innovative development. While wineries that have created large vineyards with EU funding are seeking to control the raw material base. In these production structures, banks find good conditions and generously grant loans for their development. The main critical factor for the rapid achievement of a high level of sectoral competitiveness of the wine sector is the creation of technology transfer and the attraction of capital that will value this technology transfer in competitive products. At this stage, technology transfer is weak and does not lead to a boom in applied innovation. Achieving an innovative and competitive wine sector requires R&D expenditure, as well as promoting technology transfer from research and education organizations to vineyards and wine enterprises. The link between science and the wine business, innovation and technology transfer in the sector are poorly developed. Expansion of direct cooperation between research organizations and enterprises and increasing the share of private funding in research and development are key issues. The main reasons for this are the slow return on research and development costs and the weak protection of intellectual property in our country. In terms of statehood, we can mention that, with the exception of about 40 mountain municipalities, the remaining 226 municipalities can often develop viticulture. By 2021, the production of wine grapes in Bulgaria is carried out by a large number of vineyards - 3,471, the main part of which manage plantations up to 30 ha (94% of all farms) [17]. At the same time, the

total area they manage is only 35% of the total area with registered vineyards. This predetermines the weak market positions of most of the raw material producers in the country. Winegrowers who do not have their own processing facilities are further hampered by the fact that a significant proportion of wine producers produce the grapes they need on their own, or have established trade relations with grape growers. The smallest and smallest farms are often unable to sell the raw material produced, which hinders their effective existence. In addition to the quantity of grapes produced, significant factors for the positioning of the vineyard on the market are the quality of the harvested product, its varietal composition, and last but not least - the entrepreneurial skills of the farmer. Wine tourism is also one of the ways to raise awareness of the sector, and its advertising and promotion could be part of the planned information platform. Wine tourism is one of the fastest growing forms of specialized tourism and is among the most common methods for diversification of production in vineyards and wineries. Many of the existing wine cellars are open for visits and opportunities to buy wine on site, have tasting rooms, some with a hotel part, have annual traditional events and tourist tours. This is not enough, because in practice the industry lacks cooperation with other sectors in agriculture. This means that the wine sector needs to integrate with other industries while maintaining its identification, strengths and experience. Indeed, the present study identifies to some extent the main competitive advantages of Bulgarian wine production, but it is important to note that the wine sector cannot develop on its own. However, it is necessary to combine agricultural and viticultural activities with tourism, as well as support for rural areas and promotion of rural tourism. Bringing out the leading role of viticulture means the territorial identification of the cultural and historical heritage and the range of wine products for advertising on rural areas in Bulgaria and attracting investors in them. The added value is in the combination of wine traditions and cultural heritage in the field of tourism, as well as the utilization of natural resources plus responsible protection of the environment and promotion of life in rural areas [9]. In Bulgaria there are conditions for the development of the model of the integrated chain "viticulture - wine production - wine tourism-regional development", which involves supporting the modernization of rural areas, attracting investment in them and structuring the wine industry as an important factor for attractive economic development of a number of Bulgarian regions.

CONCLUSION

The model of regional development of Bulgaria also goes through bringing to the forefront of sub-sectors such as viticulture and winemaking. In practice, however, we must take into account that achieving sustainable competitive development of the industry is a complex process. The wine sector in Bulgaria has a specific structure, which includes primary production of raw materials (wine grapes), processing and production of excise goods with high added value (wines, brandies and distillates). The economic units in the sector (grapes and wine producers, as well as producers of grape brandies and distillates) are closely linked and have the potential to create a closed production cycle from the field to the final product. It is essential for the development of the sector to maintain the viticulture potential - growing massifs with market-oriented grape varieties, applying appropriate methods and modern techniques for vineyard cultivation, as well as maintaining the wine potential of the country - companies with high technology equipment and sufficient capacity for processing of the production into quality wines. Another essential element of the sector's development policy is the encouragement of farmers and raw material processors to develop their activities in accordance with ever higher environmental standards, aiming to keep the available natural resources in optimal condition for as long as possible. Promoting environmental practices in the development of agricultural activity is an approach that not only has a beneficial effect on the environment, but also helps producers to position themselves in competitive niches. Careful consideration of market requirements is needed, as well as compliance with specific factors in the sector, such as varietal and age structure of vineyards, production capacity, product range and adequate marketing for the sale of goods. It is important in the territorial plan in the wine industry to work on the construction of vineyards, processing facilities, logistics base and quality human resources for the products and the

development of viticulture. This means at the regional level to create a capacity of professional skills in choosing the varietal structure of vineyards, diversification of production, imposing a model of quality processing of products and quality of finished products in accordance with market requirements. This will certainly, on a territorial scale, require cooperation or consolidation of vineyards in order to increase the specialization, intensification and concentration of grape production. This will increase the innovation and investment activity in the industry, as well as the better varietal and age structure of the vineyards. The creation of consortia of vineyards and their joint cultivation would lead to higher quality of production, as a prerequisite for accelerating the process of conversion of varietal composition in accordance with market requirements. This is determined by the fact that cooperation on the one hand, and on the other hand economically active people strive to manage larger vineyards, will need more efficient and high-quality processing capacity, thus achieving higher added value. from its activities. Such production units, other things being equal, would be easier to attract capital to the industry needed to renew vineyards. We must clearly assess that in Bulgaria the production of grapes, grape juice and raisins is not traditional, although the country has the necessary soil and climatic conditions. Given the available quantities of grapes, the regional business must also develop these productions, as well as supporting the development of the food industry and pharmacy. In this market situation, Bulgaria can take advantage of developing other sub-sectors related to grape production and fruit growing. It is clear that the production and trade of grape products requires additional investments for the construction of warehouses and logistics centers to ensure the good quality of the products offered - table grapes, grape juice and raisins, but this is the way to expand business opportunities. In a number of rural areas one can think of introducing new productions based on several branches close to viticulture, which would also use its raw material. Investing in this direction of development of the sector will enable it to increase its competitiveness and better integration into the regional economy. In this way, the country can, through the development of the potential of the wine industry, develop other agricultural industries and productions, making the rural areas in Bulgaria modern developing territories with a quality public environment.

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ANALYSIS OF INNOVATIONS IN AGRICULTURAL HOLDINGS IN BULGARIA

ABSTRACT

The aim of this study is to perform a diagnostic of innovations on farms in Bulgaria and to identify the main outcomes of innovation management on farms. The main method used to collect information on the state of innovation on farms is a personal interview accompanied by the completion of a special questionnaire. Leading technological innovations in agricultural holdings that allow achieving a higher quality of the products produced, penetrating new markets, saving resources, as well as allowing achieving diversification of the products produced.

KEY WORDS

innovation, farms, CAP, system, sustainable, market

JEL
A2, A230, H51

INTRODUCTION

Innovations in Bulgarian agriculture over the last 10 years are a fact and there is no denying the role of the Common Agricultural Policy (CAP) in their implementation in the sector (Borisov, Kolaj, Yancheva, Yancheva, 2019). With the help of the CAP, Bulgarian agriculture has renewed its machinery, equipment and technologies used in production. In parallel with this process, farm staff were challenged to acquire skills to operate these new machines and technologies so as to increase farm labour productivity and make them more competitive in the market. Today, the CAP focuses on the idea of innovating even more rapidly on farms in EU member states (Popova, 2022); (Borisov, Stoeva and Dirimanova, 2021). This idea is realized by spouting money in the direction of digitalization of agricultural production, implementation of the principles of circular economy as well as those of bio-economy in the development of agricultural farms. This process in turn gives rise to the need to train and financially encourage farmers to cope with these new challenges in the business environment created.

The aim of this study is to perform a diagnostic of innovations in agricultural holdings in Bulgaria and to determine the main results of innovation management in farms.

The CAP has an impact on the innovation process in agriculture, both in terms of the renewal of the inputs used and the products produced for the final consumer. This study analyses the state of innovation at farm level. A systems approach is used as a guiding principle in diagnosing the innovation process on farms. The farm is presented as an open system that interacts with its environment. This system interacts with the environment through its input and output, that is why innovations are studied both at the input and output of the farm system (Stoeva, Dirimanova and Borisov, 2021).

METHODOLOGY OF THE STUDY

The main method used to collect information on the state of innovation on farms is a personal interview accompanied by a specific questionnaire. By surveying **180 agricultural holdings** from different planning regions of the Republic of Bulgaria, the aim is to collect information needed to determine the factor and outcome indicators, as well as the markers used as reliable for diagnosing innovation in agricultural holdings (Borisov, Stoeva, Dirimanova, 2021). ***Organizing the survey*** **.** In order to collect the necessary information to calculate the above indicators, the following survey activities are relied upon (see diagram 2):

- Preparation of a questionnaire to study the state of the innovation process on farms;
- conducting a survey and focus groups of farmers

The database of the Directorate for Rural Development and the Directorate for Compensatory Measures at the Ministry of Agriculture and Rural Development - Sofia was used as a source for the sample. The resulting general population consists of 10 542 organisations that meet the criteria defining them as agricultural holdings on the territory of the country. The simple random sampling method was used to form the sample, and the constituent units were selected by non-probability sampling. The sample size is **180 agricultural holdings**.

Table 1. Number of farms surveyed by region.

Area (NUT2)	Number	Period of enquiry
Plovdiv	30	10.02 - 17.02.2022
Pazardzhik	30	01.03 - 17.03.2022
Sliven	30	20.03. - 05.04.2022
Haskovo	30	05.04 - 18.04.2022
Kardzhali	30	21.04. - 28.04.2022

Yambol	30	30.04 - 10.05.2022
Total:	**180**	

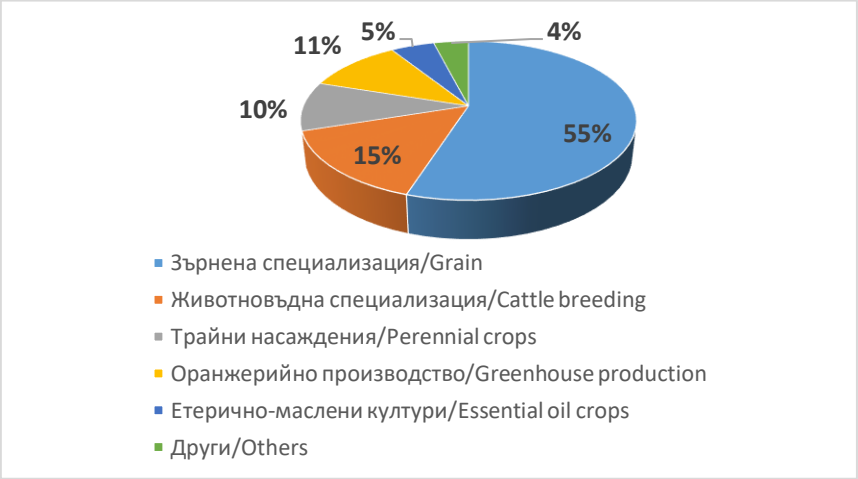
Source:NSI

Questionnaire . A specially designed questionnaire aims to collect information that will characterise the innovation process at farm level. The structure of the questionnaire follows the logical framework of collecting adequate and correct information necessary for the calculation of factor and outcome indicators as well as for the calculation of effect markers.

RESULTS AND DISCUSSION

Typology of farms surveyed . In order to collect reliable information, a survey was conducted covering **180 farms** in the territory of the town of. Plovdiv, town of. Plovdiv, Pazardzhik, Plovdiv, Pazardzhik, Pazardzhik, Plovdiv. The survey covered 180 towns. Kardzhali and Haskovo. Yambol. The survey period is from 10.02. to 30.05. 2022. The purpose of the survey is to collect information on the state of the innovation process in agricultural holdings.

Figure 1. Specialization of the surveyed farms

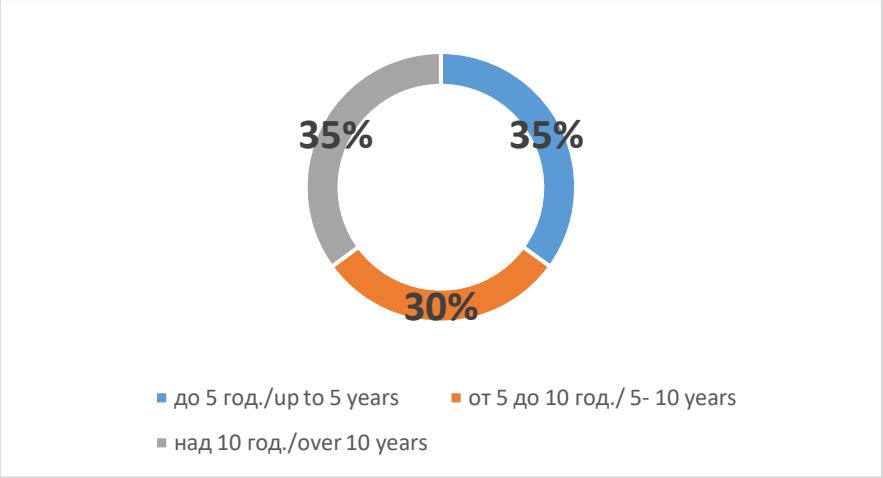


Source: own survey of 180 farms, 2022

The structure of the surveyed farms according to their specialization is given in Figure 1. The data shows that 55% of the farms surveyed have a specialization in cereal production, followed by farms with livestock production specialization - 15%, farms with greenhouse production specialization - 11% and farms with permanent crops - 10%.

Figure 2 shows the structure of farms according to when they have existed as a business model in the market. According to the data, farms that are more than 10 years old are predominant (they occupy 35% of the total farms surveyed), followed by the group of farms with an age of up to 5 years - 35% and finally those with an age of 5 to 10 years, respectively - 30%.

Figure 2. Farm maturity



Source: own survey of 180 farms, 2022

On two-thirds of the farms surveyed, farmers who managed the farm for men. In ½ of the farms, the number of permanent employees is less than 10 people.

Figure 3. Sources of financial assistance that farms have used



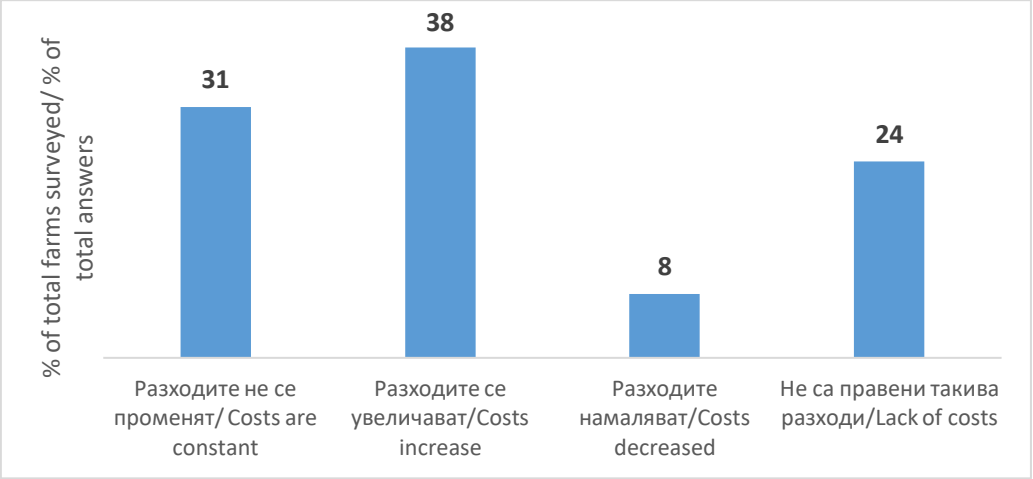
Source: own survey of 180 farms, 2022

This 85% of the farms surveyed had used financial assistance under one of the schemes or measures set out in the CAP 2014-2020 (see Figure 3). Farmers on 10% of the farms surveyed stated that they had not used financial assistance during the current CAP. The remaining 5% of farms had used financial assistance other than that provided by CAP 2014-2020. All farms surveyed reported that financial assistance is vital to their future development and they rely on it to renew their assets.

Costs of innovation on farms . One reliable measure of the state of the innovation process on farms is the cost of acquiring new assets. Figure 4 provides information on the dynamics of expenditure on

the acquisition of new buildings and land on farms over the last 5 years. The data show that the costs of acquiring such assets are increasing, with 38% of the farms surveyed declaring this to be the case. This means that investments have been made in these farms for innovations securing the building and land stock. For 31% of the farms, the expenditure on acquiring new buildings and land has not changed, and for 24% of the farms no such expenditure has been made in the last 5 years. On only 8% of farms did these costs decrease. Overall, it can be concluded that spending on upgrading the building and land stock of farms is up, with 77% of farms surveyed making such expenditures in the last 5 years.

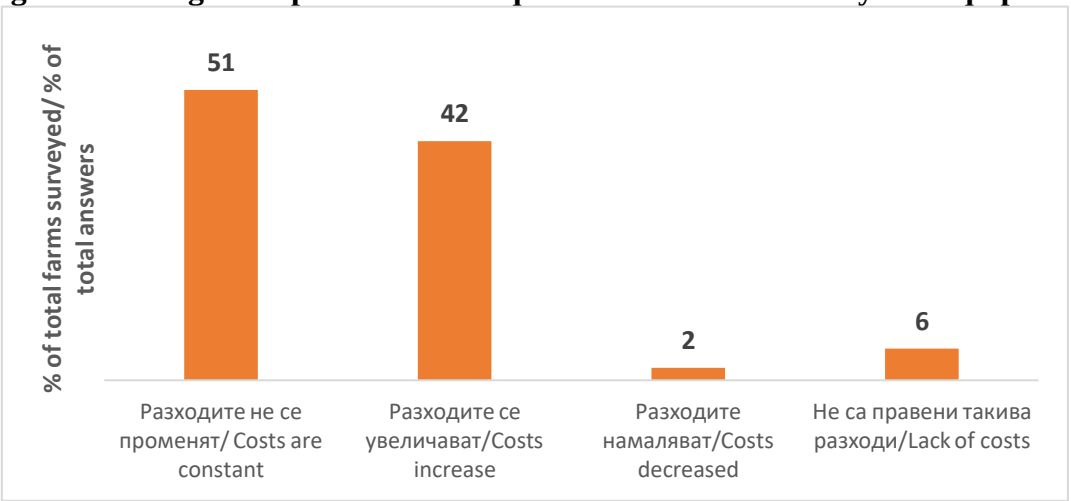
Figure 4. Change in expenditure on acquisition of new buildings and land



Source: own survey of 180 farms, 2022

Figure 5 provides information on the dynamics of expenditure on the acquisition of new machinery and equipment on farms. Out of all 180 farms, 51% declare that the expenditure on the renewal of these assets has not changed in the last 5 years. On 42% of farms, expenditure on the acquisition of new machinery and equipment increased, while 6% did not incur any such expenditure. In general, the renewal of machinery and equipment on farms occurs in 93% of the respondents' expenditures, and in half of them it remains constant.

Figure 5. Change in expenditure on acquisition of new machinery and equipment

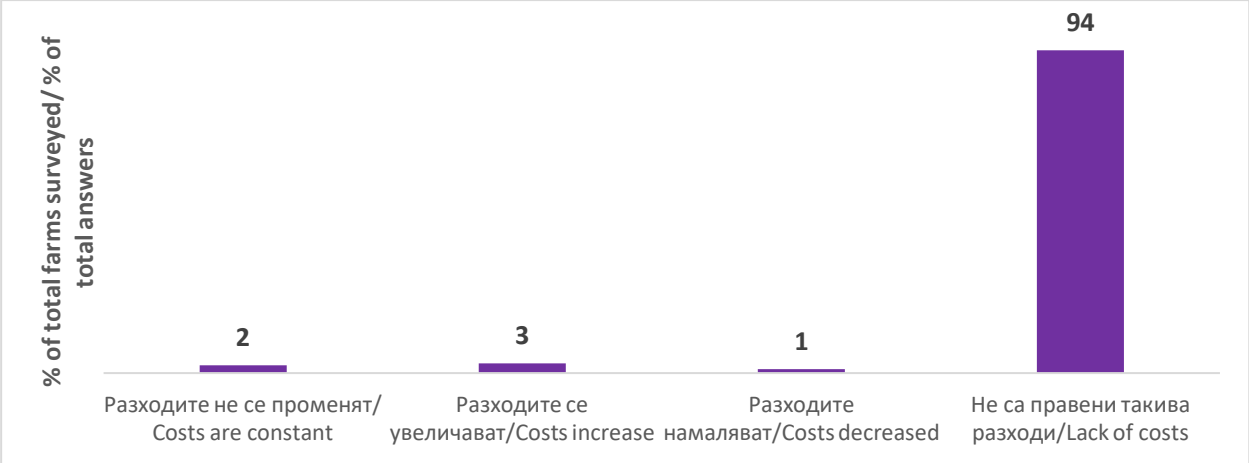


Source: own survey of 180 farms, 2022

The data presented in the last two figures show that innovation in new physical assets exists, and the trend is for the cost of acquiring them on farms to be flat over time. Through patents and licenses is one of the ways of technological renewal of farms. Figure 5 provides information on the costs of

acquiring these non-physical assets on farms. The data presented show that farms are reluctant to make expenditures on this type of innovation, with 94% of the farms surveyed having made no such expenditures in the last 5 years.

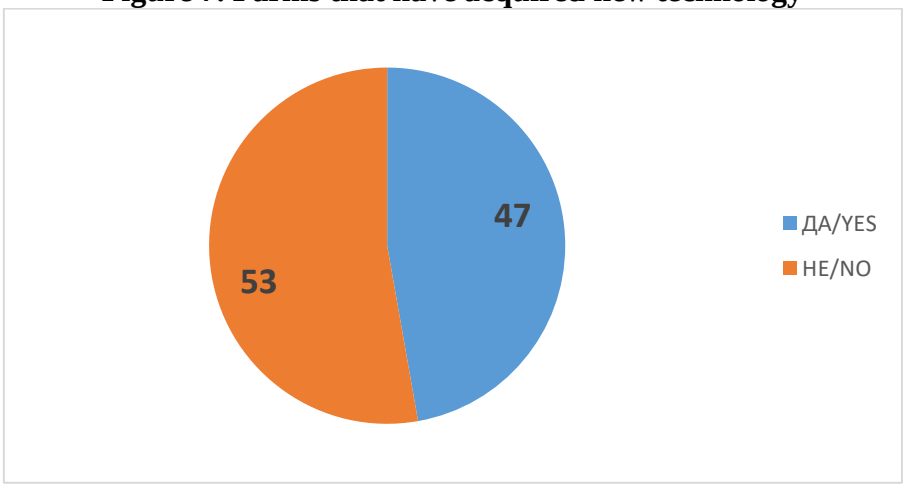
Figure 6: Change in the cost of acquiring new licences and patents



Source: own survey of 180 farms, 2022

Clearly, technological innovation occurs in other ways that cannot be captured by an indicator - acquisition costs. This is evidenced by the data presented in the following Figure 7. According to these data, farms are upgrading their technological level - 53% of the farms surveyed declare that this is the case. The main supplier of new technology is the one who supplies the planting and/or sowing material, or the supplier of chemicals and fertilizers necessary to organize agricultural production. The supplier does not require payment when the technology is transferred to the farm, as the costs are most likely calculated in the other inputs and activities that he supplies to the farmer. Another part of the new technologies is delivered by specialised providers - digital services are identified as such services, which a fraction of farms (only 33%) use when organising and managing agricultural production. Such specialised providers are those - who supply smart - equipment (hardware and software) or typical mobile services (A1, Vivacom, Telenor).

Figure 7. Farms that have acquired new technology

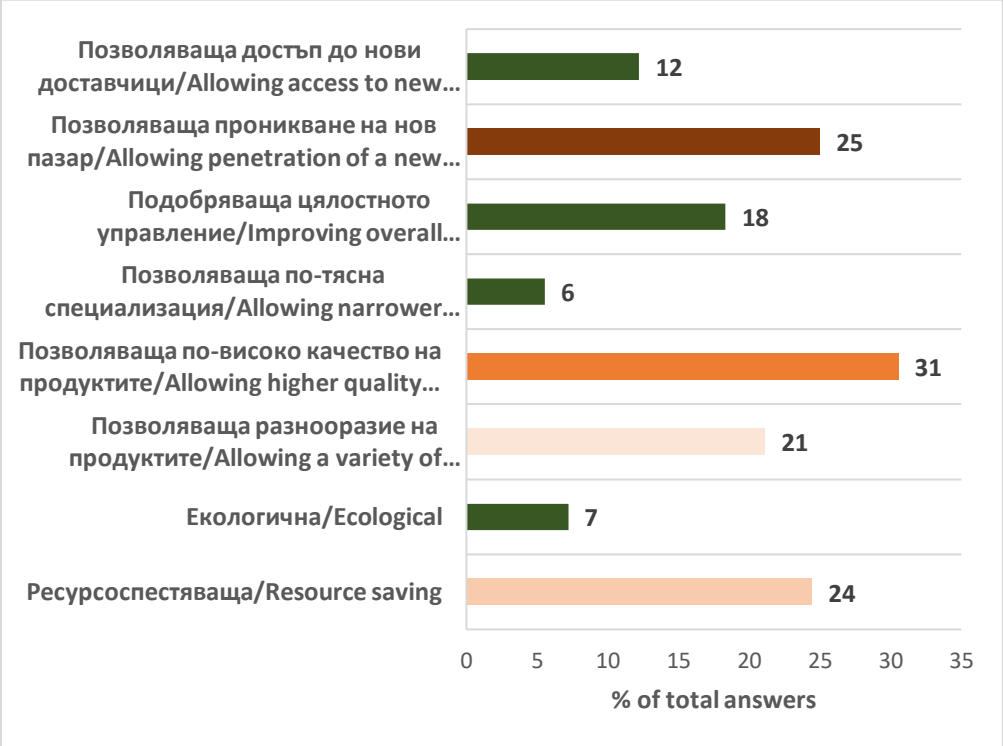


Source: own survey of 180 farms, 2022

Types of technological innovations that farms are adopting . Technological innovations that farms use aim to solve specific problems farmers have in organizing the production and marketing of agricultural products. The following figure shows the directions of new technology use in the farms studied. From the data presented in Figure 8, it can be seen that in 31% of the farms, the new

technology that has been introduced is one that allows the achievement of a higher quality of the products produced. For 25% of the farms, the new technology they have introduced in the last 5 years is one that allows penetration of new markets. For 25% of the farms, the investment is in the direction of introducing resource-saving technology. For 21% of farms, new technology is available that allows diversification of the products produced.

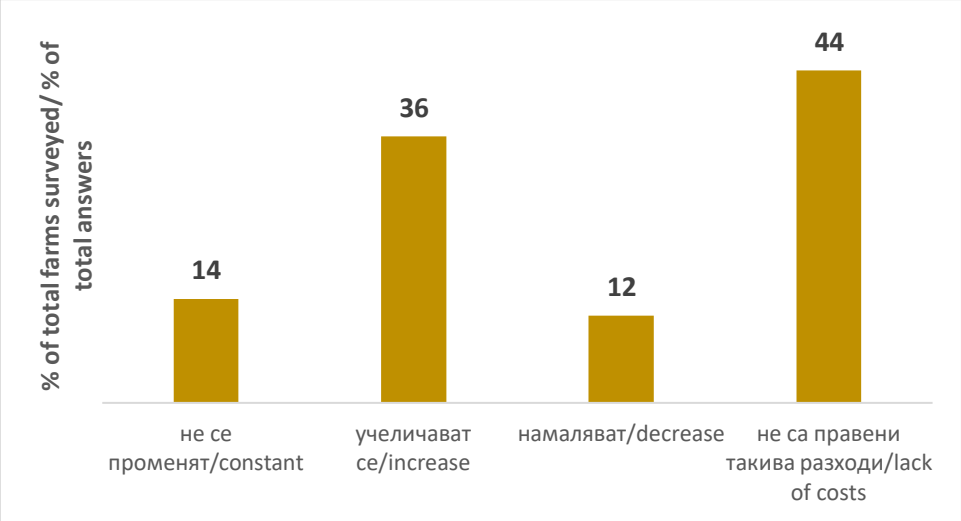
Figure 8: Types of new technologies being introduced on farms



Source: own survey of 180 farms, 2022

Changing the qualifications of farm workers . Technological renewal on farms requires a change in the qualifications of those employed in production. In case of a cardinal change in the technological level on the farm, the staff needs to undergo training and coaching to acquire new knowledge and new skills that will enable them to adapt to the new technological requirements. One of the questions in the questionnaire is "How has the cost of staff training changed in the last 5 years?", which aims to identify the existence of such practices on farms. According to the data presented in Figure 9, 44% of the surveyed farms do not make any expenditure on staff qualification. Overall, 50% of farms have made such expenditures, with 36% of surveyed farms increasing expenditures on this activity and 14% of farms not changing in the last 5 years. This data indirectly suggests that qualification of production employees is happening, with farmers allocating funds to this activity.

Figure 9. Expenditure of farms on upgrading staff skills



Source: own survey of 180 farms, 2022

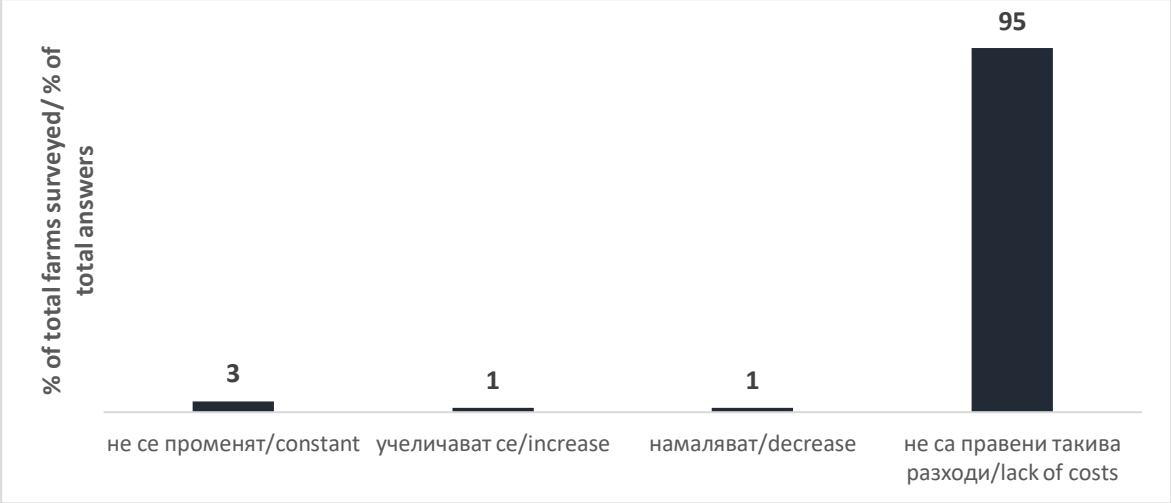
From the survey conducted, it is clear that the staff qualification is aimed at the formation of the following more important skills:

- Skills related to working with new machinery and equipment (50% of the farms surveyed claim this);
- Skills related to overall production management - 35% of respondents gave this answer;
- Skills related to working with specific software - 10% of farms surveyed;
- Other skills (teamwork, financial management, human resource management, marketing management, etc.) - 5% of the farms surveyed.

The data from the field study show that farmers and other farm workers are improving their skills in the use of new machinery and equipment, conditioned by the application of a new technological level in production.

R&D expenditure on farms . In the existing theoretical models of innovation process management in economic sectors of countries around the world, the level of research and development (R&D) expenditures is a key factor in creating an innovation environment. In Bulgaria, according to NSI data, R&D expenditures over the last 10 years have traditionally been made by the state - 95% of these expenditures are made by the state (see Figure 10). The remaining 5% is made by the private sector, which defines it as a symbolic player in shaping the innovation environment. The main private sector agents that make R&D expenditures for business angels and firms whose core business is the supply of products with specific uses that are mainly consumed by the state.

Figure 10. R&D expenditure on farms



Source: own survey of 180 farms, 2022

The state, as the main generator of R&D expenditure, supports through subsidised support the network of research institutes and universities that have to offer innovations for business needs. The next question in the survey aims to gather information on the state of R&D expenditure in Bulgarian agriculture. Figure 56 shows information reflecting the responses received from 180 farms. According to 95% of the farms surveyed, no R&D expenditure is incurred. The main reasons for the lack of such expenditure are:

- Misunderstanding the nature of R&D expenditure;
- Insufficient funds to allocate to R&D;
- Lack of confidence in R&D activities as a source of innovation.

It can be summarized that R&D expenditure is mainly concentrated in scientific organizations - institutes and universities, and farms should only be users of the R&D results in these structures.

CONCLUSIONS AND CONCLUSION

Leading technological innovations on farms that allow for higher quality products, penetration of new markets, resource savings, and diversification of products. The results of the field study show that farmers and other farm workers are improving their skills in the use of new machinery and equipment, conditioned by the application of a new technological level in production. In the majority of farms, no R&D expenditure is observed. According to 95% of the farms surveyed, no R&D expenditure is incurred. The main reasons for the lack of such expenditures are (1) Lack of understanding of the nature of R&D expenditures; (2) Insufficient funds to allocate to R&D; (3) Lack of confidence in R&D activities as a source of innovation. It can be summarized that R&D expenditures are mainly concentrated in scientific organizations - institutes and universities, and farms should only be users of R&D results in these structures. The financial support under CAP 2020-2014 is the main reason for the conversion of production on farms. Farmers mainly rely on innovations that are environmentally friendly products - 46% of farms surveyed indicated that their innovations are of this type (environmentally friendly) and those that qualify as a healthy product - 18% of total farms surveyed. From the data obtained, it can be concluded that farmers recognize the environmental friendliness and healthy aspect of products as a source of innovation that has value in the market. In addition to a change in specialization as a result of the application of the CAP and as an important marker of the presence of an innovation process on the farm, it is sought whether the CAP also exerts pressure on the type and structure of the farm business model. The evidence suggests that farmers have been influenced by the implementation of the CAP and have changed their business model. One marker of the presence of an innovation process on farms is the size and dynamics of their investments. The survey conducted among 180 farms shows that in 56% of the farms investments have increased in recent years. The data show that investment activity is increasing in the framework of the CAP 2024-2020. Subsidies have a significant impact in the formation of assets

on farms. This is evidenced by the correlation coefficient, which for the relationship between subsidies paid and assets acquired in an average farm is 0.9703. When analyzing the relationship of subsidies with profitability achieved on the farm from their use, the correlation coefficient is low, namely 0.167. Regression analysis **does not prove the** expected relationship that as subsidies increase on a farm, its profitability increases in direct proportion. In practice, the CAP plays a decisive role in the acquisition of new assets on farms in the country. As aid increases in this direction, the value of new assets acquired on farms is also expected to increase.

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THE EFFECTS OF THE APLICATION OF OSP ON THE COMPETITIVENESS OF BEEKEEPING IN BULGARIA

ABSTRACT

The aim of this paper is to measure and evaluate the effects of the CAP instruments on the competitiveness of the beekeeping sector and, on this basis, to make recommendations for increasing the effectiveness of the application of these instruments in the future. A Common Monitoring and Evaluation Framework is used to assess the effects of CAP implementation on sector efficiency and competitiveness. It can be summarized that the future development of small bee farms cannot be achieved without the active financial support of the State. This support is necessary because these farms are the backbone of rural economic development. Farmers have a strong motivation to develop their farms, which is determined by the desire to ensure a better way of life.

KEY WORDS

competitiveness, beekeeping, CAP, regional, application

JEL

R10, H52, R55

INTRODUCTION

Financial support for the adaptation of Bulgarian beekeeping to the changing business environment is implemented through two approaches (intervention pillars) within the CAP. The financial instruments that are intended to have an impact aim to set a framework for the development of the sector that will ensure the protection of the environment and increase the efficiency of the production resources invested in the sector. Beekeeping in Bulgaria is one of the main (and sometimes the only) sources of income generation in mountain areas (2). This sector also plays an important social function, creating employment conditions in regions where large-scale industrial projects have operated in the past, providing livelihoods for the local community but intensively polluting the environment and consuming natural resources to a significant extent (3). One approach to adapting the beekeeping business to changes in the business environment is to create conditions for efficient management of

production resources. Management efficiency is expressed in the use of "new" technologies to replace the current resource-intensive technological solutions applied in the beekeeping and related sectors.

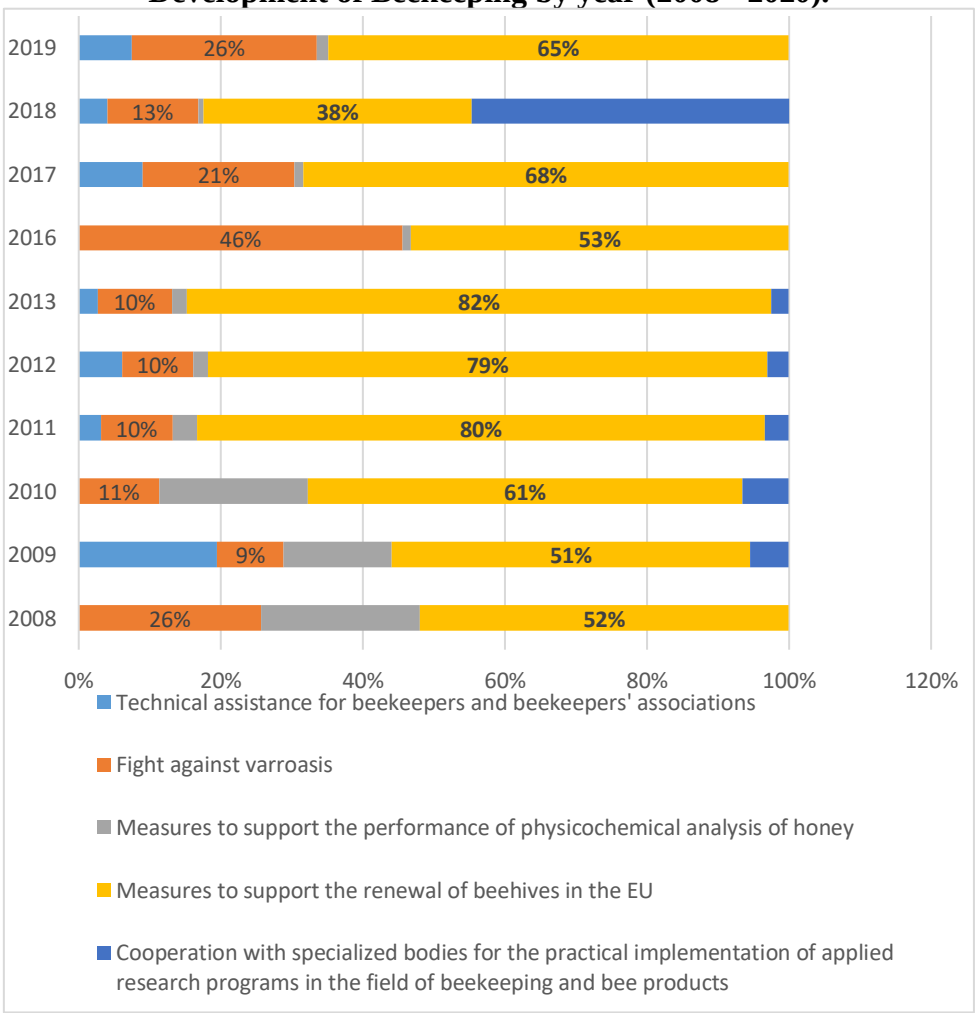
The aim of this paper is to measure and evaluate the effects of the CAP instruments on the competitiveness of the beekeeping sector and, on this basis, to make recommendations for increasing the effectiveness of the application of these instruments in the future(1).
A Common Monitoring and Evaluation Framework (CMEF) is used to assess the effects of CAP implementation on sectoral efficiency and competitiveness in order to measure the results of CAP implementation for the period 2014-2020, to demonstrate its achievements and to improve its effectiveness. For the first time, this framework covers both the first pillar (direct payments and market measures) and the second pillar (rural development), as well as horizontal measures (e.g. cross compliance) of the CAP.

ANALYSIS AND RESULTS

Analysis of the effectiveness of the CAP as an impact factor on the sector. The first approach under the CAP focuses on the efficient management of productive resources in the sector through the application of a direct payment scheme per unit area. The second approach (pillar) is the use of financial schemes to encourage investment activity in the sector, to introduce 'new' production technologies. This calls for a careful analysis of the approaches to the problems highlighted and a search for effective analytical techniques that allow for more qualitative and appropriate analysis at the level of sectors and sub-sectors. This implies a more careful analysis of the approaches and their ranking and segmentation.(6).
The following financial support mechanisms for the beekeeping sector are set out in Pillar I of the CAP: (1) Direct payments per unit area, national additional payments to direct payments and specific support and (2) Market support mechanisms. These financial mechanisms account for about 30% of the CAP budget that finances the development of agriculture and the beekeeping sector in particular. Pillar 1 includes all financial support schemes for bee farms (which are coupled or not coupled to production) as well as the measures - M10, M11, M12 and M13 of the 2014-2020 RDP. ***Measure 11 "Organic beekeeping"*** is of particular interest to beekeepers**.** This measure includes two sub-measures for the allocation of financial support within the Measure 11 budget. These are sub-measure 11.2 Payments for maintaining organic beekeeping and sub-measure 11.1 Payments for conversion to organic beekeeping. Within the framework of Measure 11, the largest financial resource was used under sub-measure 11.1 "Payments for conversion to organic beekeeping" - BGN 1 192.2 thousand (for the period 2014-2020). This sub-measure contributes the most to the absorption of financial resources for the conversion of bee farms from conventional to organic production methods**.**
Market support mechanisms. The EU's common organisation of agricultural markets aims to stabilise them, ensure a better standard of living for the population employed in the agricultural sector and provide quality and safe food at affordable prices. It covers market support measures, regulatory measures relating to quality control of agricultural products, recognition of producer organisations, issuing of import and export licences, etc. Market measures are key instruments of the CAP and act as a safety net in times of market volatility. Market volatility poses a threat to the sustainable development of bee farms, which may hinder the process of introducing 'new technologies' in the sector to achieve efficient management of production resources (1). The market support mechanisms are aimed at influencing 5 (five) strategically important agricultural sectors, such as the beekeeping sector. The financial instrument aims to support the marketing of beekeeping products. This financial instrument finances business activities aimed at building competitive advantages for Bulgarian bee products on the international market. The main instrument for financial support for beekeeping, presented as the financial mechanism for market support, is the National Beekeeping Development Programme (NDP).
This programme has been prepared in cooperation with beekeeping organisations, in accordance with the requirements of EU Regulation 1308/2013.94. The main objective of the Programme is to

improve the conditions for the production and marketing of honey and bee products, increase the efficiency of production, quality and competitiveness of Bulgarian honey and bee products, protect and sustainably develop the bee population, provide better employment and higher incomes for beekeepers(6). The financial assistance shall be granted for investments, expenditure or projects in the following areas - measures:
1 technical assistance for beekeepers and beekeepers' associations;
2 combating lime disease;
3. measures to support laboratories carrying out physico-chemical analysis of honey;
4. measures to support the renewal of beehives in the Community;
5.cooperation with specialised bodies to put into practice applied research programmes in the field of beekeeping and bee products. Within the framework of the National Programme for the Development of Beekeeping, a total of more than 52 million BGN of financial support has been made available to beekeepers since 2008. Figure 1 shows the structure of the financial assistance under the Programme in the period 2008-2008. - The financial framework for the apiculture sector in the period 2020 is as follows The figures show that the largest share of the funds provided is directed towards the construction and renewal of apiaries by subsidising the purchase of new hives (4). Over the years, the Programme has provided funds to cover investments ranging from 38% to 82% of the total budget of this financial instrument. A large proportion of the financial assistance is intended to promote the effective control of bee pests such as varroasis (this proportion has varied over the years from 9% to 26% of the total financial resources available).

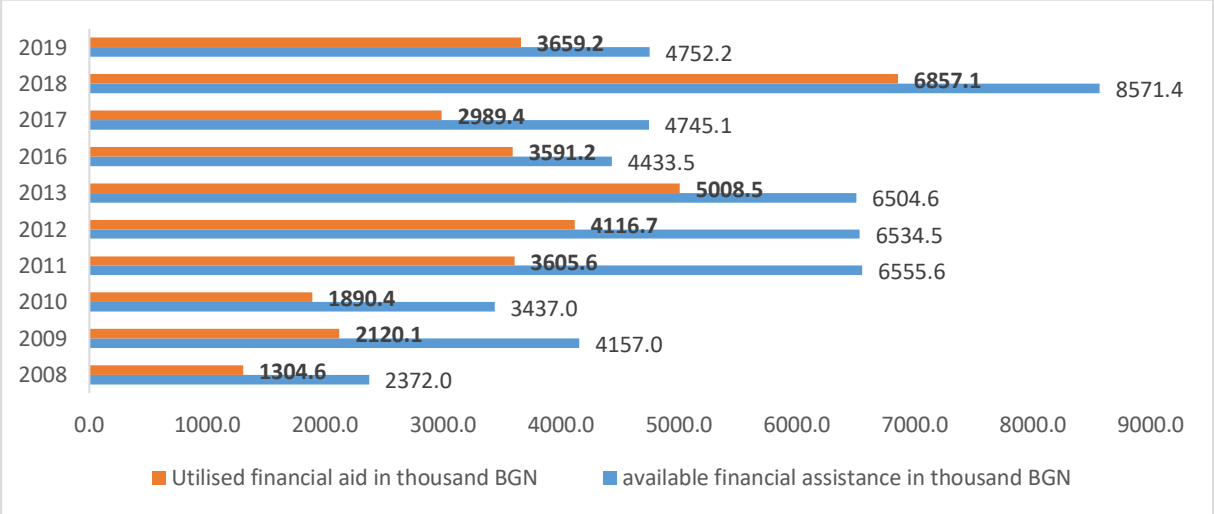
Figure 1. Structure of the financial support within the National Programme for the Development of Beekeeping by year (2008 - 2020).



Source: own calculations based on data from the published reports of the State Fund for Agriculture - 2010, 2012, 2014, 2018, 2020.

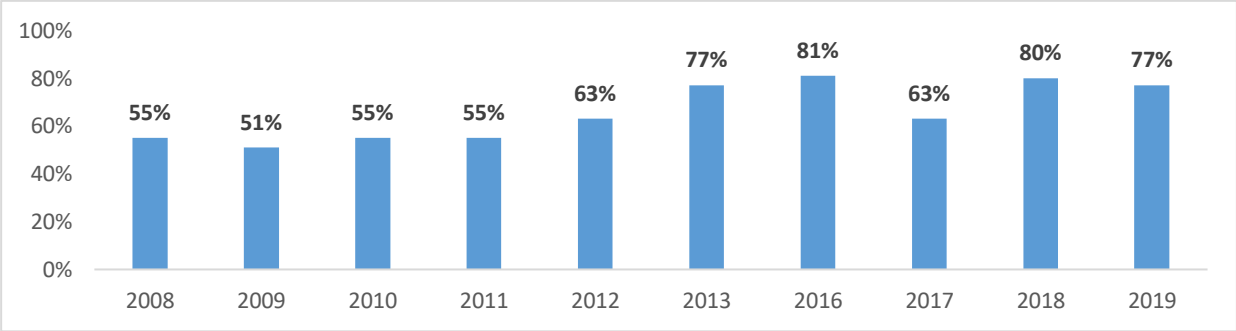
Figure 2 provides information on the financial assistance available and used for the development of the sector over the years. The figures show that the available financial assistance of BGN 2.37 million in 2008 increased significantly and reached a maximum of BGN 8.57 million in 2018. This proves that the country recognizes the beekeeping sector as strategically important for the development of agriculture and over the years has sought to attract more investment in the sector by increasing the available financial assistance by almost 3 times. The rate of absorption of financial assistance has also increased over the years, from BGN 1.3 million in 2008 to a maximum of BGN 6.86 million in 2018. Over the years, the National Beekeeping Development Programme has become one of the most successful financial mechanisms for supporting Bulgarian agriculture, with beekeeping being cited as a successful example for attracting young and new entrepreneurs to the agricultural sector (3). However, the uptake of financial support has not been satisfactory. Figure 3 provides information on the absorption rate of the financial assistance foreseen under the Programme.

Figure 2. Available and used financial support under the National Beekeeping Development Programme by year (2008-2020).



Source: own calculations based on data from the published reports of the "State Fund of Agriculture" - 2010, 2012, 2014, 2018, 2020 and data of the Beekeeping Development Program - 2008-2010, 2011-2013, 2017-2019.

Figure 3. Utilisation rate of the financial support foreseen in the framework of the National Programme for the Development of Beekeeping by year (2008 - 2020).



Source: own calculations based on data from the published reports of the "State Fund of Agriculture" - 2010, 2012, 2014, 2018, 2020 and data of the Beekeeping Development Programme - 2008-2010, 2011-2013, 2017-2019.

The data shows that the rate of absorption of financial assistance varies from 51% in 2009 to 81% in 2016. In the period 2012-2016, the absorption of financial resources has been increasing as well as in the period 2017-2019. The main reasons (barriers) for the increase in the uptake of financial assistance were initially the unpopularity of the Programme among farmers, the low confidence in

this financial instrument, and later the small size of the advance payment as well as the inability of beekeeping farmers to secure co-financing for their business projects.

Figure 4. Rate of absorption of financial support, by individual measures of the National Programme for the Development of Beekeeping (% of total available support on average for the period 2016-2019)



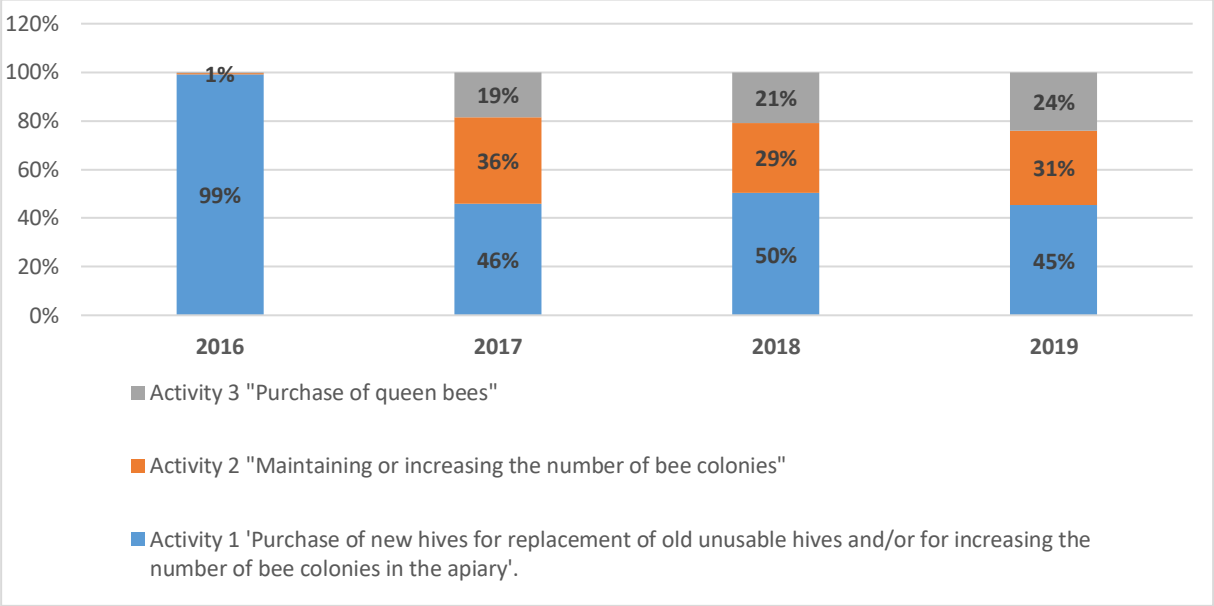
Source: own calculations based on data from the published reports of the "State Fund for Agriculture" - 2016-2019 and data of the Beekeeping Development Programme - 2016-2019

Figure 4 provides information on the uptake of financial assistance under the different measures of the Programme. The measures with the highest uptake are. Support measures for the restocking of beehives and (2) Control of varroasis. For these two measures, 77% of their total available budget was used. The first measure has the most significant financial resources of the measures included in the Programme - about 2/3 of its budget (see Figure 1). This measure aims at the establishment and renewal of beehives as a basis for successful business development of farms in the sector. One of the main problems in beekeeping remains the effective control of bee pests and, in particular, the bee disease lime disease. For prevention and treatment, the measure "Fight against varroasis" covers about 26% of the available financial resources of the Programme (3).

It is notable that no funds have been used under the measure "Cooperation with specialised bodies for the practical implementation of applied research programmes in the field of beekeeping and bee products". This is the main financial instrument of the Programme to promote technology transfer and innovation in the apiculture sector (1).

Figure 5 provides information on the funds used for the different activities included in the measures to support the renewal of beehives. It can be seen that mainly the financial support under this measure was used for the purchase of new hives in the period 2016-2019.

Figure 5: Utilisation rate of the financial support, by individual activity, covered by the measure "Measures to support the renewal of beehives" of the National Programme for the Development of Apiculture (% of total available support)



Source: own calculations based on data from the published reports of the State Fund for Agriculture - 2016-2019 and data from the Beekeeping Development Programme - 2016-2019.

Effects of the CAP on sectoral competitiveness. In the current CAP environment, bee farms in the country identify the following barriers to increasing the competitiveness of the sector - organic access to some inputs and high production costs; insufficient working capital; limited market access; competitive imports of bee products from China, as well as frequently changing regulations; and lack of sufficient experience in managing projects funded under the different measures of the Programme. One of the main factors for increasing competitiveness and improving market access is to increase the production capacity of bee farms and to accelerate the process of diversification towards the production and marketing of bee products with higher added value.

A major limiting factor in increasing the size of a bee farm is access to credit and the low market price of honey. Farmers point out that production costs have increased significantly and even with the help of the various measures that support them they cannot achieve a satisfactory return on inputs. The banking sector has high requirements regarding the collateralisation of investment loans and thus limits farmers' access to credit resources. This is the main reason why bee farms do not invest in expanding production capacity or adding value to the honey they produce. Another critical factor for the successful development of bee farms is the low market price of honey. Bee farm keepers report that this market is extremely dominated by resellers who set low farm gate prices in order to be able to extract higher profits from the business. Another factor that drives down farm gate prices is competing honey imports from China. Low income levels and achieving financial stability with exclusively own funds objectively limit the available finances of bee farms needed for investment and structural development (5).

There are also restrictions on access to quality references and materials. Most farmers do not trust the quality of the references and materials offered by traders. The low efficacy of these preparations leads to their more frequent use, and this reflects on production costs. Traders often play tricks and refuse to issue invoices to farmers, who then cannot declare these costs.

CONCLUSION

It can be summarized that the future development of small bee farms cannot be realized without the active financial support of the state. This support is necessary because these farms are the backbone of rural economic development. Farmers have a strong motivation to develop their farms, which is

determined by the desire to ensure a better way of life. In this study, the realisation of these opportunities builds on the strengths of bee farms. However, it is pertinent to point out that establishing one's own brand, converting production to organic requires are business activities requiring large investments that are accompanied by high risk. The weak influence of small producers on the purchase price, the high production costs determined by the rapid increase in the prices of medicines, preparations and fuels and the reluctance to cooperate that has become established among these circles pose significant organic challenges for the future development of bee farms. Therefore, the number of these farms will remain large in the future and solutions for their survival are difficult to give. One of the opportunities for development on organic bee farms is the so-called co-investment, which is provided for in the new rural development programme. Under this programme, conditions will be created to encourage joint investment for the needs of bee farms, without the need to set up associations and cooperatives beforehand to implement investment decisions. If this condition became part of the new programme, beekeepers would have another alternative for sharing the investment risk in the organisational development of their holdings.

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