Sustainable Development GOALS 2030: Challenges for South and Eastern European Countries and the Black Sea Region

Proceedings of the 8th International Conference of ASECU Youth

Organized on the occasion of 100th anniversary of the University of National and World Economy

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September 15–20, 2019
Ravda, Bulgaria

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SUSTAINABLE DEVELOPMENT GOALS 2030:
CHALLENGES FOR SOUTH AND EASTERN EUROPEAN COUNTRIES AND THE BLACK SEA REGION

Proceedings of the 8th International Conference of the Students Association of Economic Universities of South and Eastern Europe and the Black Sea Region (ASECU Youth),
organized on the occasion of 100th anniversary of the University of National and World Economy
September 15–20, 2019
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Conference Proceedings include papers that reflect results of scientific research of graduate and post-graduate students of the South-Eastern Europe universities. Presented papers covered issues of modern economic science, relevant issues of development of world economy and economy of countries of Southern and Eastern Europe, including different industrial aspects. Special attention was paid to post-crisis dynamics of region‘s development.
The proceedings have not been amended or proofread and editors are not responsible for the language used in paper.

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Welcome address
by the President of the Scientific Committee

Esteemed Colleagues,

Dear Participants,

The University of National and World Economy (UNWE) is one of the founding institutions of the Association of Economic Universities of South and Eastern Europe and the Black Sea Region (ASECU) and a strong supporter of the establishment of ASECU Youth. Today, UNWE is on the eve of its centenarian anniversary.

To celebrate our 100th anniversary we have developed a rich and diverse program, and the 8th ASECU Youth International Conference and Summer School has a very special role in these events. This is because we believe the best way to celebrate one century of history, one century of traditions and success is together with you – the ASECUers – our best friends.

As one of the best established higher educational institutions in Europe, UNWE is proud to host the 8th ASECU Youth International Conference and Summer School in its Rehabilitation Complex in Ravda. UNWE is the largest and longest running higher educational institution in Southeastern Europe. With an unequalled track record in Bulgaria, the University is considered as a leader in European higher education, playing an integral role in furthering educational standards in economics, management, administration, law and politics. With over 22,000 students and more than 500 lecturers, UNWE is well known for its academic excellence. Many employers often refer to it as the 'Bulgarian Harvard', due to the high academic performance of its graduates. We believe that our 100 years' experience and pursuing of excellence will make this year's ASECU Youth event the best in the history.

The topic of the 8th ASECU Youth International Conference and Summer School is "Sustainable Development Goals 2030: Challenges for South and Eastern European Countries and the Black Sea Region". Sustainable development is at the heart of the challenges facing today's global economy. From 15 until 20 September 2019, 55 students, accompanying professors and researchers from 10 countries will discuss and collaborate on the major areas of sustainable economic development focused on countries from Southeastern Europe and the Black Sea Region as well as on the different social, economic and political challenges these countries have to tackle.

I wish all participants interesting discussions, a stimulating exchange, and above all new impulses and inspiration to solve the problems of our times.

Sincerely,

Statty STATTEV, D.Sc.(Econ.), Professor,
President of the Scientific Committee,
8th ASECU Youth International Conference and Summer School,
Rector of UNWE,
Vice-President of the Council of Rectors of the Higher Education Institutions
in the Republic of Bulgaria

Welcome address
by the President of the Organizing Committee

Dear Colleagues,

Dear Students,

Have you ever asked yourself "What is to be an ASECUer?" Let me suggest three key features each ASECUer has.

First, ASECUers always *have a goal/vision*. We – the ASECUers – know that the meaning of today comes from the meaning of tomorrow. Moreover, we are aware that only big goals lead to great victories. ASECUers do not listen to the negative people – the "No"-sayers – because we know it: small people just cannot understand big goals.

Second, ASECUers *work hard*. We appreciate that light has always been a result of burning. We are not afraid of failing when turning goals into reality – there is no one that doesn't failed. However, when we fail, we never stay down but always get up.

Third, ASECUers, on their path to success, *do not forget to help others*. To pull somebody else up is what makes all of us complete persons.

Whoever has a goal, works hard for it and helps others is known as a leader. Therefore, to be an ASECUer is to be a LEADER. This is it! Always keep it in mind!

Together with my talented and hardworking team I had the honour to lead the organisation of the 8th ASECU Youth International Conference and Summer School. We all are proud to be given that opportunity.

We wish all participants a fruitful exchange and inspiration. Above all, we wish that this year's event will make you individuals not just aspiring to make a living, but young people aspiring to make a difference. We are sure you will leave Bulgaria with nice memories and beautiful impressions. And if you intend to return to the experience, you will be always warmly welcome!

Sincerely,

Michael MUSOV, Dr., Assoc. Professor,
President of the Organizing Committee,
8th ASECU Youth International Conference and Summer School,
Secretary-General for International Cooperation of UNWE

Welcome address
by the President of ASECU

Esteemed Colleagues,

Dear Participants of the 8th ASECU Youth Conference and Summer School,

Celebrating eight (8) years of international, youthful, dynamic activism for ASECU Youth is the best proof for the correctness of the initiative of our Association to establish it.

The Association of Economic Universities of South and Eastern Europe and the Black Sea aims to promote academic cooperation between its Member-Universities and to establish networks for continuous qualitative achievements with respect to education and research.

The ultimate pursuit is none other than to synchronize our activities for the benefit of economy, society, peace and cultural development in our countries.

ASECU Youth, starting as a side-formation of the main Association, evolves gradually into one of the most auspicious branches, as it brings together students and young promising researchers in a platform of friendship, fellowship, understanding and mutual respect. Those are the major principles, upon which we have to develop the deeper linkages of cooperation and intercultural, transnational co-creation in our region, transcending the dark sides of our common history, which often emerged on the basis of alien interests.

The 8th Summer School / Youth Conference of ASECU Youth is hosted by the University of National and World Economy in Sofia (UNWE), one of the founding members of our Association, in the University's Rehabilitation Complex in Ravda. We all are very thankful to the administration of UNWE and to the colleagues of the organizing committee for taking over this significant responsibility and for their commitment.

This year's event responds to two major necessities:

- First, it contributes to a progressively far-reaching networking of ASECU Youth, aiming to bring together also young colleagues from the rest of the world – this is in perfect harmony to the increasing number of ASECU Member-Universities outside the main area of our Association.
- Second, the chosen thematic of the 8th Summer School / Youth Conference responds to the main question of our times: how to succeed sustainable development with respect to the economy, the society and the environment. Current challenges are undeniable and more and more imperative, especially for the region of South and Eastern Europe and the Black Sea.

Therefore, I wish all of us every success at this year's event and I declare my confidence that ASCU Youth will respond to the major challenge it took over.

Sincerely,

Grigoris Zarotiadis, Dr., Assoc. Professor,
Dean of the Faculty of Economic and Political Sciences, AUTh,
President of ASECU

Welcome address
by the President of the Board of ASECU Youth

Dear participants of the 8th ASECU Youth International Conference and Summer School,

It is a long awaited culminating summer event for the scientific and academic community of the ASECU and the ASECU Youth – the ASECU Youth International Conference and Summer School – coming to its solemn opening.

I would like to take the opportunity to express my warmest appreciation to the University of National and World Economy as a hosting university of the summer school and each member of the Organizing Committee for your commitment to the spirit and tradition of the ASECU Youth of uniting academics, students and business and authorities representatives annually for an open and constructive dialogue. The main subject of this dialogue and the 8th Summer School/ Conference is *"Sustainable Development Goals 2030: Challenges for South and Eastern European Countries and the Black Sea Region",* which will initiate discussions on both realized practices of the ASECU Youth countries and common initiatives of the UN members located in the South-Eastern Europe and the Black Sea region in terms of 17 SDGs 2030 – a set of evaluated and measured actions for poverty alleviation taken in parallel with measures to increase economic growth and address a range of issues in education, health, social protection and employment, combat climate change and protect the environment.

Addressing professors, I wish you to have lively discussions at your lectures, exchange experience and teaching skills with participating academic peers, find new contacts for initiating joint research activity and realizing scientific projects and enjoy time in Ravda.

Dear ASECUers, let the 8th ASECU Youth International Conference and Summer School bring you a chance to extend your research topic by getting questions and an outside opinion from foreign colleagues. I wish you to capitalize on the skills and knowledge acquired from other students' and professors' presentations, make useful contact for further research activity and fruitful collaboration and, surely, enjoy a week in Bulgaria, relaxing at the seaside, travelling, having fun during social and cultural programs and making new friends.

With best wishes and kind regards,

Milena BALANOVA,
President of the ASECU Youth
PhD student at Rostov State University of Economics, Russia

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Blue Economy: A Cost-Benefit Analysis in Eastern Mediterranean

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ABSTRACT: Since ancient times, Mediterranean Sea has been an intersection of cultures and has played a key role in the development of her communities. The purpose of this paper is to highlight the terminology in Blue Economy and analyse key sectors in Eastern Mediterranean. Nowadays more than ever, we should think about not only economic opportunities but also the sustainability of this sea. To answer this, the paper presents a cost-benefit analysis that has been done before and proposes future studies according to nowadays challenges, opportunities and trends in economic sectors. Through the results the last part of paper consists of the suggestions and emergent that the sustainability of Mediterranean requires regional collaboration, sharing knowledge and best practices for common acts among countries.

Keywords: blue, economy, Mediterranean.

INTRODUCTION

Oceans are the cornerstone of life on earth as they produce more than 50% of the oxygen we breathe and absorb one-third of the CO_2 produced by human activities. At the same time, healthy marine and coastal ecosystems contribute to the fight against poverty, creating jobs for people and providing food. It is no coincidence, that for many people, oceans are the new economic frontier of countries.

Over the years, the way that ocean activities are performed has become increasingly different. We are thus headed for a new ocean economy which, in order to continue to operate as a whole, must take into account population growth, human income growth, natural resource depletion, climate change and the existence of new technology. The main problem is the absence of a common global definition of the ocean economy and every country aims to a different target. As a result, oceans are a fragile and often conflicting environment, where economic and political conflicts are linked to economic and social inequalities of countries.

For European Commission (EC), (Ecorys, 2012) “the maritime economy consists of all the sectoral and cross-sectoral economic activities related to the oceans, seas and coasts. This includes the closest direct and indirect supporting activities necessary for the functioning of these economic sectors, which can be located anywhere, including in landlocked countries.” Apart from the term ‘ocean’, ‘maritime’ economy is also used from EC, as well as Norway and Spain. Mainly ‘ocean’ is used by the United States. The Organisation for Economic Co-operation and Development (OECD) considers that the above definition is incomplete. For

this purpose, OECD defines the ocean economy "as the sum of economic activities of ocean-based industries, and the assets, goods and services of marine ecosystem."

By 2050, the expected population of the earth is estimated at 9.6 billion, resulting in increased pollution and competition for natural resources. The above figures impose cooperation and responsibility at international level to keep oceans healthy, productive, safe and resilient to the future generations.

DEFINE BLUE ECONOMY (BE)

A new wave of economic thinking has spawned from the ocean economy to blue economy, based on the sustainable use of the natural resources of the oceans, seas and coastal areas. The inspirer of the term is a Belgian economist Gunter Pauli.

The term of BE as applied to coastal and marine environment was acquired, not in 1994 with the introduction of the term, but much later in 2012 at the United Nations Conference on Sustainable Development, also known as Rio +20[1]. The conference focused on two themes: the further development and advancement of the Institutional Framework for Sustainable Development and the advancement of the Green Economy concept. Although several international organizations cooperated at the above conference, they failed to establish a common definition. As in the ocean economy, so is the BE, there is no universally accepted definition, but everyone stresses the need for sustainability.

The Union for the Mediterranean (UfM) defines that the BE is "the set of human activities depending on the sea and/or underpinned by land-sea interactions in the context of sustainable development, and notably including industrial and service sectors such as aquaculture, fisheries, blue technologies, coastal and marine tourism, shipping, ship-building/repair, ports, ocean energy and marine renewable energy"[2]. Moreover, UfM points out that sustainable consumption and efficient use of resources are prerequisites for blue and sustainable development, as they allow economic growth to be decoupled from environmental degradation.

The European Commission perceives BE differently and reports that the 'blue' of the BE comes from the seas and oceans. The oceans play a key role in the economy of coastal European countries, they can contribute to Europe's overall prosperity with new jobs and investments. Therefore, it is necessary for the BE to be sustainable. As a result, EC defines that BE is "all economic activities related to oceans, seas and coasts and covers a wide range

[1] http://www.rio20.gov.br/en/about_the_rio_more_20.html.
[2] https://ufmsecretariat.org/wp-content/uploads/2015/11/2015-11-17-declaration-on-blue-economy_en.pdf.

of interlinked established and emerging sectors". In established sectors belong these with long-term proven contribution to the economy, such as living resources, offshore oil and gas, port activities, shipbuilding and repair, marine transport and coastal tourism. On the other hand, emerging sectors are defined as those with high potential for future opportunities and development, such as renewable energy, blue biotechnology, deep-sea mining, desalination, coastal and environmental protection, defence and security, marine research and education.

Beyond the blue economy, EC also refers to Blue Growth[3] as the long-term strategy to support sustainable growth in the marine and maritime sectors as a whole. This strategy recognizes that oceans and seas are the driving force for development and innovation in the European economy. So, it aims to the following activities: aquaculture, coastal tourism, marine biotechnology, ocean energy and seabed mining.

The Wold Wildlife Fund (WWF) reports that a sustainable BE is a sea-based economy which provides social and economic benefits for current and future generations. So, it helps to eradicate poverty, insecurity, income, unhealthy, inequality and political instability. Moreover, sustainable BE restores, protects and preserves the diversity, productivity of the marine ecosystem on which its well-being depends. Another characteristic is that this economy is circular, uses renewable energy and clean technologies, in order to preserve planet's reserves. According to WWF all the above activities for sustainable BE require collaboration through public and private operations.

The United Nations Environment Programme (UNEP) refers to BE as "the Green Economy in the Blue World" and aims to improve prosperity, social equality, significantly reducing environmental risks and deficiencies. This economy based on sharing circularity, collaboration, solidarity, resilience, opportunity and interdependence. S.Smith-Godfrey gives another approach to BE. He points out that his goal is to find a definition that is easy for someone to remember, apply, manage and measure BE. So according to him, ~~but~~ a more general definition is that, "BE is the sustainable industrialisation of the oceans to the benefit of all".

None of the above definition identifies exactly with someone else. This stems from the interests of each organisation or author. Since oceans account 71% of the world's surface, the Earth's survival depends on the protection and sustainability of them. The 2030 Agenda for Sustainable Development is a plan adopted in September 2015 by United Nations to achieve a better future. Its action plan is for the next 15 years with aim to eliminate extreme abuse,

[3] https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en.

combating inequality, injustice and protect the planet. It consists of 17 Sustainable Development Goals (SDGs) which are broken down into 169 specific targets. The blue economy is part of SDG14[4] "Life below water". The individual targets are these 7:

1. prevent and reduce marine pollution,
2. manage and protect marine and coastal ecosystems,
3. address impacts of ocean acidification
4. restore fish stocks
5. conserve 10% coastal and marine areas
6. prohibit certain forms of fisheries subsidies,
7. increase benefit from sustainable use marine.

MEDITERRANEAN SEA

Since ancient years, the Mediterranean Sea has played a key role in the evolution of human history. Its geographical location makes it both a crossroad of trade between the three continents and a point of exchange for cultures. Great religions and cultures emerged and developed there.

Even though the Mediterranean Sea represents just 1% of total ocean, it comprises 20% of the global Gross Marine Product (GMP)[5]. The overall value of ocean assets in this sea is more than 5.6 trillion $ and the economic output of the Sea makes it the fifth largest economy in the region. Since the Mediterranean is one of the most highly valued seas in the world, it is essential to target in sustainability of the sea.

The most emerged sector of BE is tourism. Tourism is essential economic activity for many Mediterranean countries such as Greece, Italy, and Turkey. International arrivals in this sea accounts for about 1/3 of tourism globally. It generates 92% of GMP and estimated that over 500 million tourist arrivals by 2030. Hence, it is essential to develop comprehensive national strategic frameworks and protect environmental assets for sustainable tourism.

The second emerged sector is fisheries. For thousands of years, in this sea, seafood provides food, jobs and income for millions. Specifically, the fisheries sector provides employment for 360.000 people. The General Fisheries Commission for the Mediterranean (GFCM) estimated that Mediterranean fisheries had a collective worth of 3 billion$. So, it is essential to ensure fisheries to the next generations. Some sustainable activities are:

[4] https://sustainabledevelopment.un.org/sdg14.
[5] Gross Marine Product is the ocean's annual economic value.

promoting sustainable fishing techniques, empowering small-scale fisheries, creating strong laws for overfishing, etc.

Tourism and fisheries are just two sectors. The Mediterranean Sea contributes to the region's economy. However, unsustainable development, human habits, overfishing causes substantial damage to its assets. So, it's necessary governments and civil society to collaborate and act to a sustainable blue economy.

As compared to the world production, the Mediterranean Sea has so far been a relatively small producer of offshore oil and gas. Specifically, in EU Mediterranean countries the share of oil reserves is very limited compared to rest of the region. Countries such as Algeria, Egypt and Libya, in 2011, held 94% of Mediterranean offshore oil reserves. In EU Mediterranean countries, these activities mainly took place in Italy. Between 2000 and 2009, although gas production steadily increased with a doubling of gas production in this Sea, oil production has remained relatively stable.

These activities raise the question, whether a region with rich mineral wealth could destroy itself. Offshore oil and gas seemed to be an advantage. History shows that they can drive a country's economy into decline. In 1959, large gas reserves were discovered in Groningen. Although the deposit found was capable of giving a huge boost to the Dutch economy, twenty years later Dutch people face unemployment and income reduction problems for the first time. Gas exports brought a lot of foreign currency into the county, resulting in the country's currency depreciation. This situation created the so called "Dutch disease", which first time was coined in 1977 by The Economist. Nowadays, the Dutch disease used by economists to describe the casual relationship between the increases in the economic development of a specific sector (such as gas exploitation) and a decline in other sectors (for example agriculture).

In case of the Dutch disease, the Dutch government reacted quickly and managed to reverse the situation. Other countries such as Venezuela, Algeria, and Saudi Arabia couldn't react and have seen the country's mineral wealth drive their economies to decline. Norway has managed to avoid the Dutch disease, firstly by controlling its public spending and secondly by creating investment funds that fund oil projects for future generations. As for Greece, there was a variant of Dutch disease where unilateral exploitation and development of tourism and shipping took place. As a result, there was a direct impact on the deterioration of the Greek industry which led the country to memorandum, despite efforts to stimulate the Greek industry.

Under no circumstances can the one-sided development of a region support the whole economy, as it has been shown with the exploitation of oil and gas. To avoid the Dutch disease in the Mediterranean Sea, continuous support and development of all countries is required to enable the economy to be sustainable in the long run. Apart from economical and environmental problems that will rise in case of Dutch disease in the Mediterranean, its geopolitical position will affect the three continents. Before being considered as centre of power and economic relationships, the Mediterranean region has been a cradle of civilization, literacy and poetry. In fact, the Mediterranean Sea is a complex framework in which it is possible to find tolerance and culture, but also contradictions, created by a different territorial potentiality. The ethnic complexity of the whole area is also linked with the different communities and religions live side by side. So the dialogue is not always simple. There for it's urgent to collaborate all governments with the private sector.

COST-BENEFIT ANALYSIS

A Cost-Benefit Analysis (CBA) is a set of practical methods and procedures that guide decision making in public or individual projects. It's the best way to evaluate the feasibility of a project. What makes it better is that CBA has a broad view and can be used for long-term analysis. The decision to approve or reject a project is comparing the costs with the benefits. If the benefits outweigh the costs, then the project is worth it. If the costs overweigh the benefits, the project isn't worth it. And if the benefits are equal to the costs then society is indifferent to whether the project will be approved or rejected. The categories of benefits and costs and how they are to be measured should be determined on the basis of principles derived from welfare economics. Thus, the benefits are the maximum that consumers are willing to pay for the project and the cost is the minimum amount that producers must receive to produce the project. So, CBA is a systematic approach to assessing the advantages and disadvantages of alternatives that meet the transactions, activities of a business.

Usually, a baseline scenario is compared to one or more alternatives. The analysis evaluates elementary differences between them. In other words, a CBA is trying to answer: What are the additional benefits that would arise if this alternative is implemented and what additional costs are required to achieve it. Generally, CBA has two purposes: 1) determine if an investment/decision is good and 2) compare the different scenarios, included a comparison of the total expected cost and benefits of each options.

All the aspects of the project, positive and negative, must be expressed by a common unit. The most convenient common unit is the money. This means that all benefits and costs

of the project should be measured in the terms of equivalent monetary value. Although that is a benefit to analysis, the conversion of all terms to money makes it difficult for the researchers. This happens because the value of money does not remain constant over the time, but varies by economical, political, social conditions.

According to EC[6] and the guide about CBA which proposes, CBA consists of seven steps: 1) description of the context, 2) definition of objectives, 3) identification of the project, 4) technical feasibility & environmental sustainability, 5) financial analysis, 6) economic analysis, 7) risk assessment.

A holistic approach of CBA, specifically in the Mediterranean Sea, should include of course all the foregoing, but also give particular basis in costs. Costs should consist of the costs from economic effect and environmental effect, but also from the geopolitical effect. As mentioned before, the Mediterranean Sea has a geopolitical strategy position since ancient years and can affect the whole region.

AN EXAMPLE OF CBA

In recent years, offshore oil and gas exploration contracts have mushroomed in the Mediterranean. Specifically, in April 2015 their activities covered nearly half of the Sea. The growing number of these operations increases the probability of oil spill accidents. The Mediterranean Sea is a semi-enclosed sea with significant seismic activity. So it's urgent to study the extractions of oil and gas in this Sea, if we want to avoid the situation of Dutch disease. Not only for economical condition of the region, but mainly because of the Mediterranean being a crossroad of countries and such a disease could have international political implications, apart from the environmental ones.

That raises the question, if the extraction of oil and gas could be or not be a part of sustainable blue economy. The impacts on ecosystems of exploration and extraction of oil and gas fall into two main categories. Firstly, those resulting from accidental oil spill and then from drilling and production of infrastructure and associated waste. Apart from that, there is impact in global marine environment, which contributes to climate change. According to a Brief of the EU DG Environment, there is limited scientific understanding of the effects of oil on marine organisms and biological systems. The direct impacts could include death of a wide variety of marine species, migration, microbial blooms, hypoxia[7], airborne emissions of chemicals from controlled burns and toxic effects of chemicals used to disperse oil.

[6] https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf.
[7] Lowering of oxygen concentrations in water.

As stated by the World Offshore Accident Databank (WOAD), between 1970 and 2009 occurred 29 hazardous accidents related to oil operations. The largest number of accidents, sixteen, were recorded in Italy. Greece follows with five accidents.

Although, a CBA is a useful tool for a project, in the sector of BE there aren't such analyses. Only the World Wide Fund for Nature in Greece has presented a report related to BE in Greece.

This report studies the economic impacts of the exploitation of hydrocarbons in Greece and analyzes four different scenarios. The time period chosen is 25 years (2019-2044), following the guide of EC (15-25 years in energy sector) and Greek government. Impacts evaluated have been selected because of their importance to the national economy, always subject to available data. The modelled impacts are: 1) clean-up impacts (direct costs), 2) tourism impact (loss of GVA), 3) fishing impacts (loss of GVA) and 4) carbon impact (cost of emissions).

The four different scenarios are the following. Scenario 1 assumes that the benefits generated by oil extraction follow best available forecast for the price of oil and it's the central estimated scenario. Scenario 2 is the best-case in terms of economic benefits generated by oil extraction. Scenario 3 assumes that the actual level of oil reserves in Greece is lower than the level initially predicted and lowers global prices for oil and gas prices than forecasted. Moreover, scenario 1, 2 and 3 assumes only small, medium and large-scale spills occur. On the contrary, scenario 4 is similar to 1, but assumes there is a single (over a 25 year period) major oil spill affecting the Greek coast line.

The results of the above scenarios show that the total costs in scenario 1-3 range between 881 million and 1,243 million. On the other hand, in scenario 4 the cost is much more. It is estimated 5,943 million. Despite the uncertainties and limitations of the study, the findings suggest that extraction of hydrocarbon in the Greek seas can potentially have disastrous effects on the national economy and further to all Europe. For this reason, a holistic CBA for drilling economy in Mediterranean should not be limited in the case of Greece but be expanded to the whole Mediterranean countries.

CONCLUSION

The main purpose of this paper is to highlight the differences between the definitions of BE. Thus, quotes the numbers of two emerged blue economy sectors in Mediterranean Sea, such as tourism and fisheries and the worry of Dutch disease about occurring in the Mediterranean.

The numbers presented raise the question whether extractions of hydrocarbons can coexist to a sustainable blue economy.

Following, I present the only example in this direction, although there are many shortcomings in the report. The main shortcoming is that there aren't the benefits of exploitation hydrocarbons. This is the most difficult part and it's an interesting challenge for someone to study. If anyone manages to define the benefits, then he will estimate the exact Net Present Value of all scenarios and take the right decision of which scenario is the best. Apart from that it will be very useful if this analysis was done for other Mediterranean countries, as this study concerns all countries. Moreover, it's necessary, a future CBA include costs not only from the environmental effects as the above study, but also the economical and geopolitical effects, as Mediterranean Sea is a crossroad of continents. Last but not least, the most important is in future reports to include the environmental factors. Moreover, history should serve as an example to avoid catastrophic impacts. Norway is a good example of a country, which manage to avoid Dutch disease. So it could be useful if these actions were implemented by the Mediterranean countries. A future study could focus on the adaption of Norway's policy measures in the Mediterranean region. Apart from that, all governments should collaborate, exchange knowledge and act in common for the good of all humanity in a sustainable world.

ABBREVIATIONS

BE	Blue Economy
CBA	Cost-Benefit Analysis
EC	European Commission
GMP	Gross Marine Product
GVA	Gross Value Added
NPV	Net Present Value
OECD	Organisation for Economic Co-operation and Development
SDGs	Sustainable Development Goals
UN	United Nations
UfM	Union for the Mediterranean
WOAD	World Offshore Accident Databank
WWF	World Wildlife Fund

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Challenges to the Black Sea Ecosystem

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ABSTRACT: The pollution of water basins is one of the most significant problems in the world. It causes changes in the chemical and the physical properties of the medium, which impacts the development and functionality of the organisms living there. The pollution passes through the food chain and gets to the soils, which in-turn directly jeopardizes both all of the animals and the wild and cultivated plants, as well the people.

This paper will provide information regarding the causes for the pollution of Black Sea, and the following repercussions, citing and analysing multiple scientific papers, articles and monitoring reports on the topic. As a result, from the analysis of this study, suggestions for the optimization of the handling and management of the generated waste, as well as such for the general environment preservation of the Black Sea region.

Keywords: Black Sea environment, waste generation, waste disposal, sea pollution, Environmental risk prevention.

INTRODUCTION

The Black Sea ecosystem is almost entirely isolated from the world ocean, which contributes for its unusual properties. With a volume of 547 000km^3, Black Sea is home for over 160 different fish species, and borders with 6 countries – Bulgaria, Romania, Ukraine, Russia, Georgia and Turkey – for a total length of 631km of its shores with an approximate of 16 million people leaving within the cities along them. A distinguishing feature of Black Sea is the biodiversity of its plant species, which is about 3 times lower in comparison with the Mediterranean Sea and the world ocean. This is a result from the approximately 300 fresh-water rivers that flow into it, the biggest of which are Danube, Dnieper and Don. In their waters, there is various industrial and every-day waste flowing, ultimately getting into Black Sea.

DANGERS TO THE BLACK SEA ECOSYSTEM

In a monitoring article, the NPO RedMarLitter presents this list of species with endangered habitats:

- Submerged macrophytic communities of super-salt lakes
- Mediterranean halophyte communities, Zuki and Cereal Grasses
- Annual communities of Salicornia Spp., Suaeda Spp., Salsola Spp. And the Black Sea salt lakes
- Underwater meadows on seagrasses /Zosteramarina и Zosteranoltii/

- Cysoseira Spp. On iphra-literal rock bottom or rock blocks under the influence of the sea waves

This report also shows the following list of species considered vulnerable:

- Mussels and or sea urchins
- Littoral sand and muddy sand
- Infralittoral rock and others hard substrata
- Sublittoral mussel banks on sediments
- And Sublittoral sand

Waste

Each year, about 8 billion metric tons of waste get in to the world ocean[1]. Due to Black Sea's natural isolation, its pollution is a significant problem, and the accumulated waste creates dead-spots (islands of waste). Considering the unusual nature of the Black Sea, the sea is much more susceptible to changes in its surrounding environment and within itself.

Eutrophication[2] and Retraining

During the middle of the last century, the countries surrounding Black sea started massively using artificial fertilizers and pesticides, including in the zones surrounding the water basin. This resulted in generation of biogenic waste polluting the local rivers and ultimately polluting Black Sea with a considerable amount of nitrates. Those biogenic salts trigger the widespread development of phytoplankton, which in the last 3 decades have multiplied it's biomass by 10fold. The boom of the phytoplankton results in a diminishment of light getting to the plants stationed in the deeper parts of the sea, especially the ones bound to the sea floor, causing their photosynthesis to diminish and leading to their death. Once the amount of those slats diminishes and the phytoplankton dies, decomposition processes begin which cause bad taste and smell of the waters and cause consumption of the water-dissolved oxygen, which in-turn results in dead-zones[3].

[1] Study made by National Center for Ecological Analysis and Synthesis NCEAS in 2015.

[2] Eutrophication is the process of enrichment of the water with phosphorous and nitrogenous compounds, triggering a rapid development of seaweed and other plant based life, which in result causes a disruption of the balance of the other present organisms as well as a diminishment of the water quality. As a comparison, during normal conditions, biogenic compounds such as Phosphorus and Nitrogen are found in much lesser amounts – Source Eutrophication of sea-lakes waters – main ecological problem of the Varna Lake and Varna Bey with author Iliana Nedeva.

[3] Dead Zones - „The thin upper layer of marine water (up to 150 m) supports the unique biological life in the Black Sea ecosystem. The deeper and more dense water layers are saturated with hydrogen sulfide, that over thousands years, accumulated from decaying organic matter in the Black Sea. Due to the unique geomorphological structure and specific hydrochemical conditions and specific organisms.

In the past 40 to 50 years the boundaries of those zones, saturated with more hydrogen sulfide and populated only by anaerobic bacteria, has expanded with about 40 meters and now reached 80 meters under the surface.

Petrol Pollution

Petrol derived compounds are extremely toxic and at result the resulting pollution causes the death of various sea critters and birds, as well as their mutation. „A lot of the toxins present in petro and the petrol compounds, and especially the saturated cancerogenic carbohydrates, accumulate and transfer themselves along the food chain" (Georgiev et al., 2011).

The causes for petrol pollution are various, but one of the main sources for Black Sea, contributing about 30% of the total, are the oil tankers disposing their ballast waters in the waters of the Danube river.

Plastic Pollution

About 80% of the total pollution is caused by plastic waste, with approximate calculations showing that about 5 billion tons of the plastic produced since the 1950 are polluting the world ocean. In 2006 a report published by the NPO GreenPeace indicates that at least 267 animal species are suffering from digestive-tract issues caused by swallowing plastic waste, and that at least 100 000 sea mammals and millions of fish and birds die annually as a result from the global plastic pollution.

Every day, 3 tons of plastic is getting into Black Sea from both the rivers and the landside, causing losses amounting to over 13 billion USD, including damages to the ecosystem itself, as well as to the tourism and the fishing industry. This waste is limiting the movement, and causing infections, tissue damages and suffocation of many sea animals. Plastic waste is being decomposed under the force of the waves and due to chemical reactions with the water and air, resulting in plastic micro-particles which are impossible to get out of the water with our current technology. Being unable to filter those particles during food intake, sea critters swallow those, and with time the particles accumulate in their bodies as those cannot be digested or excreted, causing pain and swelling in their digestive tracts, and ultimately causes a certain death.

As much as 42% of the pollution is caused by tourists looking for entertainment and rest in the tourist villages. Even if not directly discarded in the water, about 80% of the waste ends up in the water, due to wind, tidal waves and rain. Look at Table 1.

The disturbance of the natural balance between the two layers could trigger irreversible damage to the people and ecosystem of the Black Sea.".

TABLE 1
Top fifteen beach litter items for the Black Sea

OSPAR CODE	***Description***	***Average 100m***	***Share***
64	*Cigarette butts*	*326*	*36%*
19	*Crisp/sweet packets and lolly sticks total*	*86*	*9%*
4	*Drink bottles*	*85*	*9%*
46	*Plastic polystyrene pieces 2.5cm >< 50cm*	*57*	*6%*
15	*Caps/lids*	*49*	*5%*
78	*Drink cans*	*44*	*5%*
3	*Small plastic bags*	*31*	*3%*
93	*Other glass items*	*26*	*3%*
53	*Other rubber pieces*	*16*	*2%*
6	*Food incl. fast food containers*	*12*	*1%*
21	*Cups*	*12*	*1%*
54	*Clothing*	*11*	*1%*
77	*Bottle caps*	*10*	*1%*
81	*Foil wrappers*	*9*	*1%*
22	*Cutlery/trays/straws*	*9*	*1%*
Total		***784***	***86%***

Source: Based on 7 OSPAR screenings.

This monitoring report indicates that cigarette buds are the predominant waste found in a 100m of coastline, with about 36% followed by packaging of various food with 9%, empty bottles with 9%, pieces of plastic with 6%, bottle caps with 5% and plastic cups with 5%. The dominant fraction of the material found in the collected waste was plastic with 42%, followed by paper and paper infused with plastic with 38% and various types of metals with 8%. It is important to note, that during their natural decomposition, plastic waste generates toxic compounds into the water.

There is still not enough information regarding long-time damages of the potentially dangerous chemicals, such as stabilizers, flame retardants, color additive, plastcizers like /Bisphenol A, BPA and PS oligomer/, used during plastic production to modify its properties. The only available information at the moment is that plastic has a cumulative effect, it is transferred along the food chain, has a cancerogenic properties, affects reproduction, causes organ changes on a cellular level and impedes their normal function, and ultimately could result in death. According to studies, about 70% of the sea floor of the water basins is covered with waste, with another 15% floating on top of the water and another 15% within the water currents.

Emissions

Apart from the air pollution, the negative impacts of the burning of fossil fuels also include pollution of the waters, by oxidizing its upper layers. Studies show that about a quarter of all emissions lead to the oxidation of the most upper water layers, and it has been prognosed that if the rate of the dangerous air emissions continue to rise, the world ocean will be about 150 more acidic in about 30 years, directly impacting the native biodiversity.

Unusual Organisms Within Black Sea

Brought on different sea-vessels, the waters of Black Sea are now inhabited by some non-native species such as G. Affinis, P. Japonicus, O. Keta, M. Soiuy, D. Labrax, L. Japonicus, L. Gibbosus, P. Altivelis, R. Saxatilis, S. Gairdneri, C. Gigas, O. Latipe, and others, where the biggest impact on the biodiversity is caused by Rapana Venosa – carnivorous mollusk native to the Sea of Japan. Nowadays, R. Venosa is a real ecological disaster for the shores of Black Sea. Covering large areas of hard underwater surfaces, this animal attaches itself to the shells of other animals such as mussels, oysters, crabs and others, where it cracks their shells open and eats them. The biggest damage in Black Sea, caused by R. Venosa, was made to the populations of the black mussel Mytilus gallopovincialis, whipping out whole fields of the mussel. This creature could only be killed by star-fishes which could not be found within the waters of Black Sea, but due to the heightened interest towards its economic impact in the 1990 from Bulgaria and Turkey, its population has significantly declined.

Noise

A little-known fact is that sound waves travel faster and further in water, compared to air. As a result, from the generated on the seashores, noise, the sea critters get disoriented in a radius of up to 30km from the shores. Noise pollution interferes with the normal communication, navigation, reproduction and food location in many sea species. The ever-growing noise levels on the shores result in changes in the underwater acoustic landscape and negatively affects the sea life, even causing deaths in some cases.

Fishing

Within the Black Sea waters, more than 168 species of fish find their home, with about 25 of them being able to live only in waters with low-slat levels, as well as 3 types of sea mammals /Alpha dolphin, common dolphin and guinea pig /Mutkur/. Studies show that in comparison with the 1960 the fishing has decreased by over 50% as a result of human activity. Water pollution from fishing accounts for about 12% of the total.

Circulation

Water pollution with dangerous chemical compounds leads to changes in the hormonal level of the sea flora, changes in its cellular structure, and impacts negatively its reproduction capacity. When sea food is consumed that has been growing in polluted environment or polluted water has been drank directly, the malicious compounds enter the human body and could accumulate and affect the normal human health, whereas evaporations of dangerous chemicals cause polluted rainfalls leading to dermatologic inflammations and cancerous formations.

> All sea critters, from the biggest to the microscopic microorganisms, during one point or another swallow sea water full of plastic micro particles and toxic chemicals from its decomposition. People eat fish, that has eaten other fish, which has eaten toxic plastics. In this way, people eat their own waste. (Dixit Renee Brown, WiredPress)

ECONOMIC CONSEQUENCES AND ACTIONS TO BE TAKEN TO DEAL WITH THE WATER POLLUTION

The presence of waste along the seashores and within the waters leads to diminished aesthetical pleasure for the visitors of the tourist cities. In this way, apart from the ecological consequences, the pollution of Black Sea, leads to negative economic consequences as well. There are losses of main sources of drinkable water, as well as losses of agricultural land, where the land could not regain its properties for decades. The pollution leads to additional expenditures in relation to ship damages, fishing facilities and many other losses and lost gains.

Sustainable Development

The tons of waste within the water basins lead to a disbalanced ecosystem, polluted or diminished food and industrial resources, as well as economic and tourism losses. In the circle economics, the value and the resources from and of the products is kept the longest, only when it creates an additional value of the aforementioned products. As a direct result, between 2012 and 2016, the following progress in the Black Sea pollution are observed:

- Cigarette butts litter prevention 16%
- Plastic carrier bags reduction 3%
- Bottle caps collection enhancement 1,1-2,7%
- Deposit refund systems on single use beverage packaging 8,5%

Strategic action plans, contracts and SDGS in relation to the environment

The modern-day society is faced with multiple challenges in regard to the sustained development of its resources – from the youth unemployment to the aging population, climate change, renewable energy and migration. In order for our natural resources to be protected, it is of an upmost importance for the transition to low-carbon and sustainable-in-relation-to-climate-change world economics with an accent on effective and efficient resource usage and management. If those challenges are to be met and transformed to new opportunities and new job openings, it is necessary for a serious resource investment in scientific research and innovation. The UN schedule until 2030, includes mobilization of all resources for implementation and effective monitoring to ensure progress and accountability. This effort also helps targeting of the process for bringing the member states closer together by focusing on the same issues using the same methods.

Sustainable development and the 2030 program

Program 2030 includes integration of SDGS within the politics and the initiatives of the EU in all areas and the review of the sustainable development as an important main principle for all the politics of the EU politics.

Four of the 17 targets are related to the environment and water preservation:

- Target 6. Ensuring access and reliable management of waters and canalization for everyone;
- Target 12. Ensuring sustainable usage and manufacturing;
- Target 13. Undertaking urgent measures to battle climate change and its consequences;
- Target 14. Protection and sustainable use of world ocean water and resources;

Some of the active agreements are the following:

- Convention for international trade with endangered species od the wild flora and fauna from 1973;
- Montreal's protocol for compounds affecting the Ozone layers from 1987;
- Basel's convention for control of trans-border movement of dangerous waste and their inactivation from 1989;
- Convention for biodiversity from 1992;
- Bucharest's convention for the protection of Black Sea again pollution from 1992;

- Strategic Action Plan for the Rehabilitation and Protection of the Black Sea (Istanbul, 1996)
- Directive 2008/56/EC of the European Parliament and the Council of 17 June 2008
- Declaration of the Ministers of Environment of the Contracting Parties to the Convention on the Protection of the Black Sea Against Pollution on Strengthening the Cooperation for the Rehabilitation of the Black Sea Environment (Sofia, 2010)

On the 2nd of July 2019 started the two-year period for integration of the requirements of the directive regarding the diminishments of the impact of certain plastic products on the nature. This directive aims to forbid the usage of plastic in certain products, including ear buds, cutlery and crockery, and others. All of those products would be required to be produced from more sustainable resources. Plastic containers for onetime use will be allowed on the market only if their caps are attached to them. This agreement will result in positive results not only for the environment but also for the economy and some of the expected results are as follows:

- Reduce emissions by 3.4 million tons of CO2 within 2030;
- Avoid economic losses for about 22 billion Euro by 2030;
- To save about 6.5 billion Euro for the customers;

Main Goals

- Responsible demeanor needed for the creation of the circle economics;
- Protection of the biodiversity;
- Healthy lifestyle conditions and availability healthy options;
- Better controlled fishing;

Actions starting from the land

- Observation, research, debating and taking appropriate measures;
- No compromises made in regards to the enforcement of restrictions and regular monitoring;
- Engagement of the society by organization of civic initiatives;
- Introduction of deposit system over a wide diapason of beverage packaging;
- Construction and modernization of existing purifying systems;
- Recycling and creation of recycling factories for plastics;
- Organization of responsible fishing practices;

- Forbidding or restricting the usage of fertilizers and pesticides in proximity to water basins and underground waters leading to those basins;
- Enforcing strict limitations regarding the usage of plastic packaging for on-time-use only in all municipalities, government institutions, educational institutions, including contractors and during events;
- Dispersion of floating petrol pollutions by direct airplane spraying of detergents like surfactants, abrasives, oxidants, enzymes, foam regulator, softeners and others or by burning it.
- Supporting of scientific research activity to find new solution for dealing with the pollutions, alternative energy sources and alternative biomaterials;

CONCLUSION

A decrease in the unnecessary consumption of products made of plastic should be one of the smaller steps towards improving the management of the plastic materials through their life-cycle. The purification of the drinkable and the industrial waters, as well as introduction of new, safer technologies in the production of laundry products, other washing materials, and fertilizers could be a deciding step towards providing a solution for the eutrophication problem. A positive example for improvement of the quality of the water and the reduction in water pollution, could be shown with the countries bordering river Rain, which in the matter of just 15 years, successfully managed to reduce the amounts of phosphates and nitrates within its waters by a staggering 50%. This resulted in species previously extinct from the habitat for centuries, like Salmon and other fish, have now repopulated the water basin. The impact that the pollutants within the waters have is multi-layered, synergetic and cumulative. The restoration of the Black Sea habitat could take decades and it requires imminent and radical actions to be taken, developed and enforced by the respective regulatory institutions, and laid-out in respective directive, conventions and other documents.

„The impossible missions are the only ones which succeed”
Jacques-Yves Cousteau

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Sustainable Use of Marine Resources in the Black Sea Region

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ABSTRACT: The article is aimed to raise the profile of the many threats to the marine industry that are affecting economies of Black Sea region countries, ranging from overfishing, illegal, unreported and unregulated fishing, unfair conditions for artisanal fishers to marine pollution from land-based activities. The study also identifies challenges that countries are facing as well as methods and practical solutions to solve existing problems.

Keywords: marine and coastal resources, unregulated fishing, marine technology.

The Black Sea fisheries and the fishing industry have a great potential. Fisheries and aquaculture are the most popular marine industries. They contribute to the socio-economic well-being of the Black Sea fisheries and facilitate the global food security. Moreover, fisheries in the region are the main source of food for the majority of the local population and a significant profitable part of the economy.

The Black Sea region mainly consists of two fishing zones - the marine, including the Black Sea and other seas of the region; inland fisheries, including the region's most significant rivers. In addition, fishing areas include coastal areas of Member States that have access to other seas outside the region, the open sea, lakes and artificial ponds. In addition, some Member States are engaged in expeditionary fishing in the waters of the oceans.

Twenty-six species of fish are traditionally caught in the Black Sea for commercial purposes, including valuable sturgeon, mackerel and halibut. The largest and most valuable species (including sturgeon, river herring and marine migratory species) have been subjected to overfishing.

In the Mediterranean Sea there is a local concentration of small deep-sea fish most of which are caught in small volumes, except hamsa. Commercial species in the Mediterranean are bottom fish, large deep-sea and small deep-sea species (mainly hamsa). With the exception of several areas with extensive shelves and depressions, the habitat for catching deep-sea fish populations in the Mediterranean is narrow and usually located in areas close to the coast, although there are some valuable deep-sea resources (king red shrimp, large hake, red coral).

Biological resources in the Sea of Azov are shared by Russia and Ukraine in accordance with an agreement signed between the two countries in 1993. Hamsa is the main harvested species, accounting for approximately 80 percent of the catch in the Sea of Azov. The Sea of Azov region is an important industrial region; therefore, the problem of a high level of sea pollution is very acute now.

The Caspian Sea is an important source of fishing for Azerbaijan and Russia. Despite the fact that Russia's catches in the Caspian Sea make up only about 7% of all catches of the country's marine sector, the Caspian bioresources make a significant contribution to sturgeon trade and caviar production in both countries.

Significant fishing zones of the Black Sea region are the Aegean, Marmara and Adriatic seas, large rivers - the Volga, Danube, Dnieper, Dniester and Don, as well as inland water bodies. Activities in this area should be definitely regulated through international cooperation in order to promote the continuous reserves renewal and the protection of marine ecosystems.

Relations between countries in this area are currently regulated by the European Commission Document “Joint Policy on the Black Sea Region”. This is an initiative of regional cooperation, which establishes that the fish stocks in the Black Sea region are in unsatisfactory condition and for their recovery it is necessary to take measures at the regional level, properly manage the fishing sector, ensure research, gather information and estimate stocks in the Black Sea region.

This document also reflects the aspect that a joint policy on the Black Sea region provides an opportunity for dialogue on the formation of a single EU maritime policy aimed at maximizing sustainable growth and creating jobs in the marine sectors and coastal zones. This may include the creation of integrated facilities for maritime sectoral cooperation between service delivery organizations, industrial enterprises and scientific institutes, as well as the strengthening of cooperation in the field of maritime surveillance in order to ensure the safety of navigation and protect the environment.

UN Sustainable development Goal 14 «Conserve and sustainably use the oceans, seas and marine resources» is being implemented through the development of recommendations and guidelines addressed to governments, regional fisheries management organizations, non-governmental organizations (NGOs), fisheries workers and the international community. Fish resources are natural, renewable and mobile resources, which are an integral part of the common heritage in the Black Sea region. This heritage should be safeguarded and developed in the context of sustainable development. The fishing industry in the Black Sea region faces a number of problems that need to be addressed in the near future.

During the research process, we have formulated a number of proposals for improving and successfully implementing the goals of sustainable development in the Black Sea region, as well as ways of preventing existing problems.

For example, the problem of illegal fishing which is particularly difficult to overcome in developing countries with a lack of capacity and resources necessary for the effective implementation of monitoring, control and surveillance. Without strong political will and concerted action by flag states, port states and coastal states, it is impossible to overcome a problem that contains multiple negative factors, such as:

- fishing and related operations in violation of national, regional and international laws (illegal fishing);
- failure to report or knowingly false information about fishing operations and catches (unreported fishing);
- fishing by unregistered vessels, i.e. vessels without a flag (unregulated fishing);
- fishing in areas covered by the RFMO conventions by ships not belonging to the Parties to the respective conventions (unregulated fishing);
- management of fishing operations that are not fully regulated by the states, the monitoring and accounting of which are difficult (unregulated fishing);
- fishing operations affecting areas where fish resources are not covered by conservation or management measures (unregulated fishing).

The rapid spread of information and communication technologies has already revolutionized the fisheries and aquaculture sector: ICTs are being used to identify fish

resources, plan, monitor, and obtain market information (electronic catch documentation and traceability systems, information on prices)

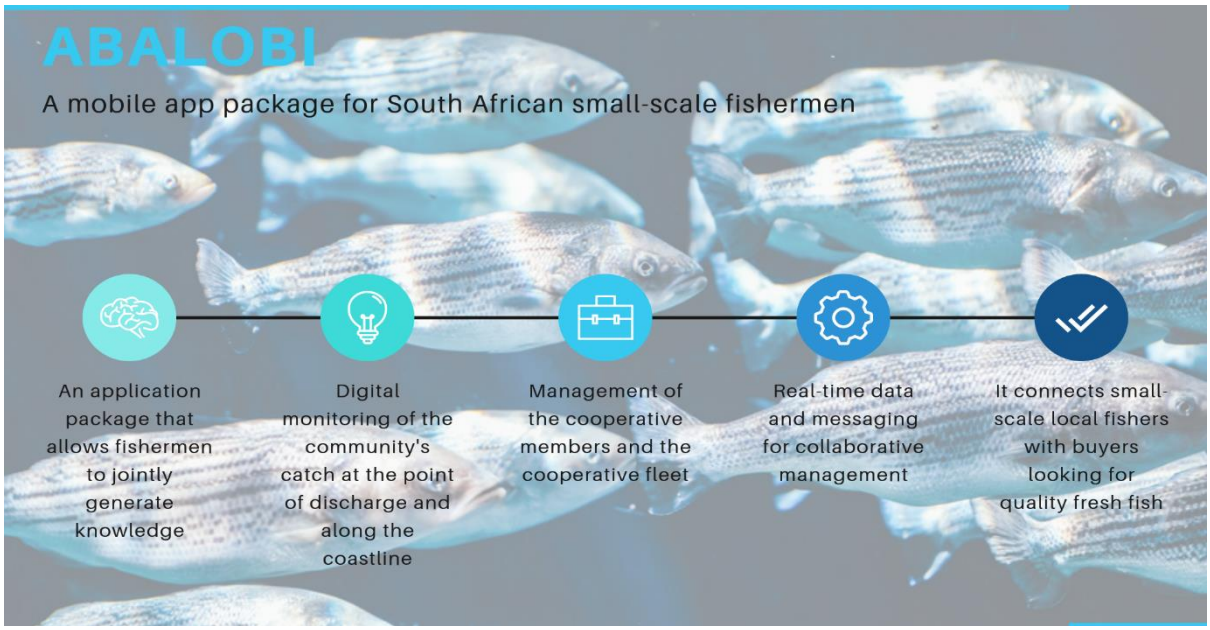
New opportunities for fishermen, which not only eliminate the need to store and keep paper documents on board the vessel, but also help in the efficient and careful implementation of fishing, transferring the catch for processing, as well as ensuring safety, is an electronic fishing journal (EFJ), satellite monitoring, international electronic reporting system, use of Big Data and other state-of-the-art IT solutions and electronic services.

In Russia at the moment there is also an electronic trading platform for the sale of aquatic biological resources and products from them, where in the fisherman's Personal Account the data is automatically synchronized with the electronic fishing journal. The system monitors the activity of the vessel, its route and position, and the inspector-controller can check the data update every five minutes.

In addition, strengthening other aspects of fisheries management, in particular, ensuring consistent marking of fishing gear, and the creation of a global registry, can be useful in terms of combating illegal fishing.

We believe it is absolutely necessary, among other things, to strengthen partnerships at the regional and global levels that allow the exchange of knowledge in the field of management and build institutional and managerial capacity through ensuring coherence of categories, standards and definitions, streamlining the data reporting process, and simplifying access to data through the use of harmonized publication formats, active cooperation in analyzing gaps and discrepancies, ensuring transparency due to systematic processing and document sources.

The safety of fishermen is also largely dependent on the use of information technologies. Electronic beacons, which, in particular, can work in conjunction with automatic identification systems (AIS) and ship monitoring systems (SMS), are able to perform the functions of security facilities and simultaneously transmit information about the behavior of ships.



Another successful project, the BlueBRIDGE, implemented as part of the Horizon 2020 program of the European Union, aims to harmonize the standards applied by international, regional and national data providers, which should facilitate a standardized approach to assessing the situation in the global fishing industry. One of the outcomes was the compilation of the Global Register of Fish Stocks and Fisheries. For the purpose of GRFSF, unique identifiers are assigned to fish stocks and fisheries, namely universal unique identifiers suitable for electronic reading and semantic identifiers intended for human reading (including corresponding codes and labels). The register allows to manage data in order to facilitate monitoring of stocks and fisheries and to identify relevant trends. Thus, the registry plays the role of practical measures stimulator designed to ensure the sustainability of consumption.

Unique identifiers assigned in accordance with the general harmonized standard could become the basis for the use of additional technologies for ensuring fish traceability, in particular, blockchain technology.

It should also be noted that the risk of falsification of fish and fish products is extremely high since fishery products can be falsified at any link in the supply chain. Examples of such falsification are the use of fake marking, species substitution, excess ice in frozen food packages.

The main problem is the substitution of species, when cheap species are sold as more expensive. In addition, counterfeiters resort to species substitution in order to conceal the geographical origin of the goods, the facts of illegal fishing, fishing of protected species or fishing in protected areas.

Measures that should help to fight against falsification of fish products may include: creating an agreed list of fish names, introducing mandatory labeling requirements, strengthening official food control systems, strengthening industry-created food safety management systems.

It also seems necessary to prohibit certain types of fisheries subsidies that lead to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing, and refrain from applying such new subsidies, and emphasize the need to combat subsidies harmful to the fishing industry that encourage the availability of excess capacity and overfishing.

Obviously, the increasing demand for fish resources in the region has led to over-exploitation of stocks, which leads to biological, social, economic and food risks and problems that still need to be addressed. Poaching is another and perhaps the main challenge in the region, and the approach to this problem should be carefully and comprehensively formulated.

As world practice shows, the effectiveness of the fishing sector depends, in particular, on regulatory mechanisms for the management and reproduction of aquatic biological resources, including the creation of modern enterprises engaged in fishing and processing. Despite the fact that legal norms have already been defined in all states of the region, there is still a need to improve them in order to avoid negative trends in the fishing industry.

Environmental impact is another important aspect of fisheries and the implementation of key international legal instruments in this direction is important for all Member States. From a social point of view, it is necessary to take into account the needs of people earning a living by fishing. Practical measures for the participation of fishermen and fish farmers in the development and implementation of policies are a necessary step to ensure sustainable fishing now and in the future.

Organizational and legal reforms in the fishing sector continue to be implemented in a number of Member States, and the implementation of this process without clear mechanisms will lead to a critical situation in fisheries. In addition, access to natural water bodies, privatization of reserves and their appropriate use, including "responsible" resource management, should be regulated in accordance with internationally accepted principles. The creation of independent public structures with the participation of representatives of authorities, including representatives of the relevant administration and user groups responsible for assessing resources, providing rights to use and financing programs to increase natural resources, can also be useful practice.

Taking into account the latest trends in the fisheries of the Black Sea region and the growing role in food supply, a significant impact on the socio-economic aspects of countries, governments should consider the fishing industry as a component of strategic importance. The development of common principles and norms for the management, conservation and sustainable use of aquatic living resources, as well as the unification of standards for the production of fish products, is a requirement of great importance for all states in the region.

To conclude, achieving the SDGs requires the participation of all countries and stakeholders. It is impossible without intersectoral and interdisciplinary interaction, international cooperation and mutual accountability, it requires solving problems, financing and shaping policies based on the principles of comprehensive coverage, objective information and wide participation.

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"Green" Economy − a New Vector of Development of the European Union

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ABSTRACT: The article describes the relevance and gives the definition of "green" economy. "Green" economy is a new global course of sustainable development which implies real improvements in people's well-being. It is aimed at building and improvement of infrastructure, comfort of living, transition to new principles of financing, education, etc. It is analyzed how "Green" economy initiatives are incorporated into EU's strategy of development and investigate case of successful implementation of the principles of "Green" economy on corporate and institutional levels.

Keywords: "green" economy, infrastructure, improvement of human well-being, innovation, sustainable development.

INTRODUCTION

In the last decade, the idea of a "green economy" has been actively discussed by experts from different countries of the world, both in economic and political forums, including in the joint statements of the G-20 group of countries in the context of global Sustainable Development Goals. The growing interest to the concept of green economy is primarily due to the inefficiency of the common "brown economy" economic model, as evidenced by numerous crises and market failures of the past decades.

To start with, we consider the basic approaches to the definition of "green economy" concept which still has no internationally agreed interpretation. Thus, the UNEP (2011) defines *green economy* as an economy that leads to an increase in people's well-being and social justice, while significantly reducing environmental risks and the lack of environmental resources. This is low carbon, resource efficient and socially inclusive economy (he UN Environment Program, 2011).

The OECD approaches *green economy* as fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies ("Towards Green Growth", 2011).

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Green Economy Coalition Magazine says treats it as an economy that provides better quality of life for all within the ecological limits of the planet.

A number of Russian scholars also investigate this concept in their research. Thus, Egorova and Eremina (2011) in their work "Green Economy as a Phenomenon of Modem Society" view *green economy* as an economy aimed at preserving the well-being of society through the efficient use of natural resources, as well as ensuring the return of end-use products to the production cycle.

Zakharova (2012) in her work "Green economy and sustainable development of Russia" shares the idea that it is a new global course of innovative anti-crisis development for the global economy.

In our opinion, the concept of a "green economy" is most fully reflected in the definition of the Belorussian Ministry of Natural Resources and Environmental Protection: it is an economy aimed at preserving the well-being of society, through the effective use of natural resources, and ensuring the return of end-use products to the production cycle.

Undoubtedly, the European Union is one of the leading locomotives for the implementation of green economy standards. In recent years, the energy industry in the European Union is experiencing difficult times: most of the energy consumed by the EU is imported; there is a constant increase in energy prices. Therefore, the European Union has developed an action plan "20-20-20", one of the key tasks of which is to reduce energy consumption by 20% by 2020. In general, it is aimed at achieving a reasonable, confident and full-fledged economic growth of the EU countries. In addition to the energy savings that are planned to be obtained, it is expected that a positive impact will be achieved on not only the climate, but also saves considerable money. The EU countries also adopted a general program for the transition to a low-carbon economy until 2050. The program sets targets for reducing carbon dioxide emissions by sector until 2030 and 2050 (a total of 40–44% and 79–82%, respectively) and lists various measures necessary to achieve these and other long-term goals, including reducing fuel costs (by 175–320 billion euros per year) and reducing dependence on energy exports.

The EU holds a special place in the implementation of sustainable development strategies imposed by the UN Millennium Development Goals and the Declaration on Development and the Environment. However, the main provisions of the Common European policy in the field of environmental protection, generating impulses for qualitative changes in the economy, ecology and society, were developed back in 1970-ies. The Treaty in Amsterdam (1999), the Lisbon Agreements (2001), the EU Treaty (2007) contain the main

directions of the policy of sustainability of the macro region. The European Union is positioning itself on a global scale as the flagship of sustainable development policies, the creator of scales for other states of the world. However, among the EU countries there is no consensus on sustainable development issues. This is demonstrated by the difficulty of finding compromises in formulating sustainability goals among 28 countries. Based on this, the most interesting in our opinion are the examples of the implementation of green technologies in the countries of the European Union.

RESEARCH METHODS AND DATA SOURCES

When writing the article, the following methods of scientific knowledge were used: Analysis and Synthesis, Abstraction, Aescription, Case sampling. European Commission, UNEP, TASS, OECD, Euromag, The European Environment Agency, Green Economy Coalition, United States Postal Service and Eurostat served as data sources.

INTRODUCING GREEN TECHNOLOGIES IN THE EUROPEAN UNION: COUNTRY CASES

Germany

Germany is the world leader in waste recycling, in fact, the country managed to establish non-waste production (as a rule, the heat obtained from waste disposal is used for space heating). There are a large number of small enterprises using recycled materials for the production of paper, envelopes, cards, as well as bags, backpacks, purses and many other items. The country is a powerful innovator in the field of wind and solar energy: Germany accounts for 23 and 30%, respectively, of all patented inventions. In addition, the number of workers employed in the green sector of the economy is 2 million people, or 4.5% of the total economically active population (Russian News Agency, 2017).

In the north of Germany, the first hydrogen passenger train Coradia iLint began to operate on a 100-kilometer route in northern Germany. “Hydrogen” trains with zero emissions are considered reliable and highly environmentally friendly, and over time can completely replace diesel trains.

Two sky-blue Coradia iLint hydrogen fuel cell trains, developed by the French engineering company Alstom.

Sweden

Sweden ranks first in the world in the use of renewable energy sources and in the disposal of household waste (96% is recycled) (“Zero Waste”, 2017).

In 2006, the City Hall approved the program for the development of the cycle network and now Big Stockholm is riddled with a network of cycle paths, the total length of which is 750 km.

According to a report prepared by the Boston Consulting Group, approximately 155 data centers with a total value of US $ 1.6 billion are operating in Sweden. Many of these data warehouses are already heating up Swedish homes. Currently, 10% of the heating in the municipal system of Sweden comes from heat from data centers.

Malmo is the eco-city of the future in Sweden with Revolutionary Bo01 District.

Low-rise residential and office buildings there are built from eco-raw materials. The roofs of most of the buildings in Bo01 are covered with moss and alpine plants, and around the houses there are numerous ponds and canals in which water accumulates and clears naturally. The same water is used for irrigation of roofs and gardens.

In addition, the area began practicing year-round use and production of 100 percent local renewable energy.

Another undoubted pride of the city, which has a population of about 300,000 people, is the concept of thorough recycling.

Malmo residents divide waste into dozens of species, which allows for faster processing. All residents of the city have a special grinder for food waste in the kitchen, of which they then make biofuel for automobile and public transport, as well as biogas used in everyday life instead of ordinary gas.

Another integral part of the concept of the new Malmo it's his landscaping. The city is already considered as one of the greenest cities in the world. Mini-gardens are being built on the roofs of the houses, and a rainwater harvesting system is used to water the plants.

Austria

One of the sectors of application of green technologies is the postal service (the share of private and public participation is 50/50), where since 2010 a program has been implemented to reduce CO2 emissions to the atmosphere. Austria Post Development Manager Daniel Melbach explains that this is achieved in three ways:

- use of electric vehicles and other environmentally friendly vehicles,
- use of solar installations and
- biogas production.

Out of 9 thousand units of mail, 653 are electric cars, electric scooters and electric bicycles, 71 are natural gas vehicles. In addition, mail delivery is carried out, wherever

possible, by ordinary cyclists, as well as on foot postmen. As a result, from 2008 to 2012, carbon dioxide emissions by the service decreased by 27%.

The Post Office built one of the largest roofing photovoltaic plants in the country - near Vienna, covering an area of 30,000 square meters, power 882 kW. The second installation - on the roof of the logistics center in Upper Austria, with a capacity of 496 kW - will be launched this year. Together, they will produce enough energy to maintain a fleet of postal electric transport (Office of inspector General United States Postal Service, 2016).

Another sector for applying green technologies is construction. Don't require any power supply from the side, fully providing themselves with energy and even sharing surpluses with common networks.

In 2012, the world's first "passive" skyscraper was built on the Danube Canal in Vienna the 21-storey wing of the Raiffeisen building, with an office space of 20,000 square meters. Its ecological concept is to reduce the need for energy, on the one hand, and to benefit from the optimal use of resources, on the other. The sun, water, earth, air, as well as energy-saving materials are used in the project RHW.2 (cost − 84 million euros) in the most efficient way. A combined plant with heat pumps and biogas generates heat and electricity for heating, cooling and ventilation. Such a combination of different systems reduces energy consumption by more than 50%.

However, in Austria, not only individual eco-friendly buildings are erected, but also micro-districts. Smart city Aspern which construction started in 2007 is planned to be completed in 2028. It is assumed that 10 thousand inhabitants will live in the microdistrict, 20 thousand jobs will be created. Aspern, will boast 80% of eco-friendly transport quest cars will be forbidden, houses will be built using green technologies.

"Valley of green technologies" is a cluster entity, joining leading enterprises for the production of solar power plants, glass processing, etc, and five universities with 50 thousand students.

Denmark

In new the eco-town Nye in the suburb of Aarhus with 15 thousand people, was decided to abandon the cars.

The first experience of eco-settlements in Denmark were introduced in 1990-ies. Village of Dyssekilde is using modern energy-saving materials in construction, produces energy through windmills, heating – through geothermal energy, all waste is recycled.

In Copenhagen, which in 2014 won the title of the "green" capital of Europe, about 98%

of residents receive electricity from thermal power plants running on household garbage and biomass. At the same time, 4% of the electricity consumed by the city is produced by a wind farm. In the future, in five years, Copenhagen intends to provide half of its electricity needs at the expense of wind energy, and in ten years − to produce 1% of electricity using solar panels.

Until 2025, in the capital of Denmark it is planned to reduce (compared to 2010) heat consumption by 20%, electricity in commercial buildings by 20%, in residential buildings - by 10%. Moreover, city authorities should reduce by 50% the cost of electricity for street lighting and reduce energy consumption in office buildings by 40% (European Commission, 2010).

Great Britain

The UK was the first country to use coal for the production of electricity. Now it is among the pioneers in abandoning fossil fuels.

Arthur Kay, the founder of the British Startup Bio-Bean, invented an unusual way to dispose of London coffee houses waste. The Bio-Bean plant processes 50,000 tons of oil cake per year - this is a quarter of all London coffee waste. In November 2017, part of the red double-decker came out on city routes with oil from coffee cake in the gas tank.

Stella McCartney back in 2014, presented an eco-friendly collection of sportswear. The technology was developed by the Dutch company DyeCoo Textile Systems B. V. The method is based on liquefied carbon dioxide.

Another British designer - Ryan Yasin - came up with “growing” clothes for children. The fashion designer has developed a pleated “origami” fabric: the material is easily stretched in length and width.

Skipping Rocks Lab came up with an eco-friendly replacement for plastic bottles - edible balls Ooho. Ooho packaging does not need to be recycled, it decomposes in 6 weeks, whereas plastic in 700 years.

Ooho is produced by the method of serification: frozen balls of water are immersed in a mixture of calcium chloride and an extract of brown algae; a membrane form around it. When the ice melts, it will hold the liquid.

Among European countries, England is the record for the number of cars on a diesel engine. To reduce harmful emissions into the atmosphere, the UK authorities launched the construction of sheds that clean the air above the highways.

Bulgaria

Bulgaria has not only achieved but exceeded the national level of electricity consumption from renewable energy sources (RES) laid down in the Europe 2020 strategy. With the stipulated 16%, the share of this electricity in consumption in 2016 amounted to 18.8%, moreover, it doubled over the previous 12 years. The largest share of energy is derived from solid waste and biofuel (about 8%), and the lowest is the share of geothermal energy (0.2%), solar (0.8%) and wind energy (0.7%) (Eurostat, 2016).

In the oldest Bulgarian resort "St. St. Konstantin and Elena", the most innovative project in the region, the gated complex "AZUR Varna Resort", has begun. This will be the first complex certified according to the standard for sustainable development BREEAM (Building Research Establishment Environmental Assessment Method) - the world's leading method for assessing the quality and measuring the impact of buildings on the environment. BREEAM certified buildings are of high quality, significantly lower operating costs, save water and energy, respectively, and reduce greenhouse gas emissions. As an additional advantage, experts also note a healthier environment for life and safety.

Greece

The first building in Greece received a gold certificate for its environmental design and leadership in the energy sector. This building is the only one in the country that is provided with new technologies for saving water, internal wastewater treatment technology and a rainwater collection system for lawn irrigation and toilets. And all this with Grundfos pumps.

The Greek island of Tilos is close to 100 percent energy independence, using only renewable sources built with EU funding. The investments that helped the island create the TILOS project (Local-scale technological innovations, optimal integration of energy storage in batteries) will make the Greek island the first in the Mediterranean to achieve energy independence soon, using only renewable energy sources. The island became known among the "greens" around the world, in connection with the widespread introduction of solar and wind energy, which has proved its effectiveness.

Also in this project are other countries that want to do similar on their islands. These include Germany (Pelvorm island), Portugal (Graciosa island) and France (Corsica). The general idea is to create a special platform that will allow the transfer of technological know-how between the islands, using also the experience gained in the intellectual network of the Pellworm system, and this will determine new opportunities for the development of such systems on other islands.

CONCLUSION

Despite the common goals of the EU sustainable development, each country has its own national strategies and programs. Their heterogeneity is associated with the peculiarities of the economic structure, economic specialization, political power and the influence of lobbying elements. Even in the field of environmental sustainability there are huge differences between the EU countries.

According to the forecasts of the Rome Club, by 2050 the European Union implements all the tasks of environmental sustainability: reduce greenhouse gas emissions, reduce energy consumption, reduce the resource intensity of the economy and the consumption of goods and services by the population (Grunwald, Kopfmüller,& Nachhaltigkeit, 2012).

At the same time, it is difficult to imagine what will happen to other areas of sustainable development - society and the economy. The cyclical nature of economic crises, population growth and new waves of migration to Europe associated with global climate change, poverty, armed political and ethnic conflicts are gigantic challenges to the concept of sustainability.

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Impact of the Level of Economic Development on the Generation of Plastic Waste Within the European Union

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ABSTRACT: In 2015 in New York City the UN voted and adopted the so-called "Sustainable Development Agenda - 2030", which includes 17 main goals, related to transformation of the world and the achievement of "a better and more sustainable future for all." These aims are focused on "global challenges" which both developed and developing countries face. One of the main issues that is affected by the programme is environmental degradation. Today the challenge that all humanity stands before is how to reduce the negative influence that human beings have on the nature around us through our day-to-day activities. The main pollutant, which is going to be investigated, is plastic – one of the principal compilers of the "World Waste Crisis". The aim of this paper is to evaluate the impact of the level of economic development on the generation of plastic waste within the European Union, measured by regression. Therefore, this paper investigates the statistics data of generation of plastic waste in EU countries for the period 2004 - 2016 and the trends in the gross national income per capita for all investigated countries. The results of this paper suggest that the impact of the level of economic development has a direct influence on the purchasing power of society, and hence the positive dependence between consumption growth, waste generation and one of the world's most widely used materials - plastics.

Keywords: generation of plastic waste, economic development, regression, European Union, World Waste Crisis.

INTRODUCTION

We live in a fast-paced and high-tech world. There are thousands, millions of creative ideas, generated across the globe only in one single day. The development that humanity strives for every minute undoubtedly gives us many benefits, which have facilitated and continue to help our way of live. Although creating a much fuller world of possibilities and innovations has its positive meaning negative effects are not missing. There are many socio-economic issues like poverty, child labour, corruption, unemployment, illiteracy, energy crisis, inflation, overpopulation and unequal income distribution. However, today we are facing other enormous problem - the World Waste Crisis and the pollution that results from it. With no doubt, we can say this is one of the biggest problems for our ecosystem. It depicts destroy the Earth and its resources and the leading to extremely unfavorable conditions not only for living, but also even for surviving.

In 2015 in New York City in order to take a step towards to solve the problems that affecting the humanity as a whole, the United Nations voted and adopted the so-called

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"Sustainable Development Agenda - 2030". This strategy includes 17 main goals, related to transformation of the world and the achievement of "a better and more sustainable future for all". (United Nations, n.d.) These aims are focused on "global challenges", which both developed and developing countries face. One of the main issues that affected by the programme is also the environmental degradation. Today, the challenge that all humanity stands before is how to reduce the negative influence that we, as human beings, have on the nature around us through our day-to-day activities and also how to develop a more sustainable sparing nature around us economy.

LITERATURE REVIEW

The main pollutant, that is going to inquire into in this paper, is the PLASTIC – one of the greatest discoveries in the human history and at the same time one of the most dangerous materials for the environment and the health of every individual on the Earth.

The history of this "incredible good" is long, but the important year in the timeline is 1907 when "the first synthetic thermoset polymer (a phenol-formaldehyde – PF), known as Bakelite, was obtained in 1907 by Baekeland through the polycondensation of phenol with formaldehydethe." "The commercial development of this PF material is considered to be the beginning of the truly synthetic plastic era and of the plastic industry." (Feldman, 2008) According to the Science History Institute, this breakthrough "was revolutionary. For the first time human manufacturing was not constrained by the limits of nature. Nature only supplied so much wood, metal, stone, bone, tusk, and horn." (Science History Institute, н.д.)

As the world's population continues to grow its needs increasing as well. Finding the ways to meet the needs is crucial for increasing the chances for survival and continued development. That is why the humans should create new ideas, which to turn into real materials, parts of the new economy type in the world. Since its inception, the plastic is gaining popularity and quickly became marketed as an innovative, much more practical, inexpensive and affordable material from all levels of the society. Its features make it easy to process and shape, which in turn makes it a substitute for many of the more expensive and hard-to-get materials used in the past.

At the beginning, from one side, "this development helped not only people but also the environment. Advertisements praised celluloid as the saviour of the elephant and the tortoise. Plastics could protect the natural world from the destructive forces of human need." (Science History Institute, n.d.)

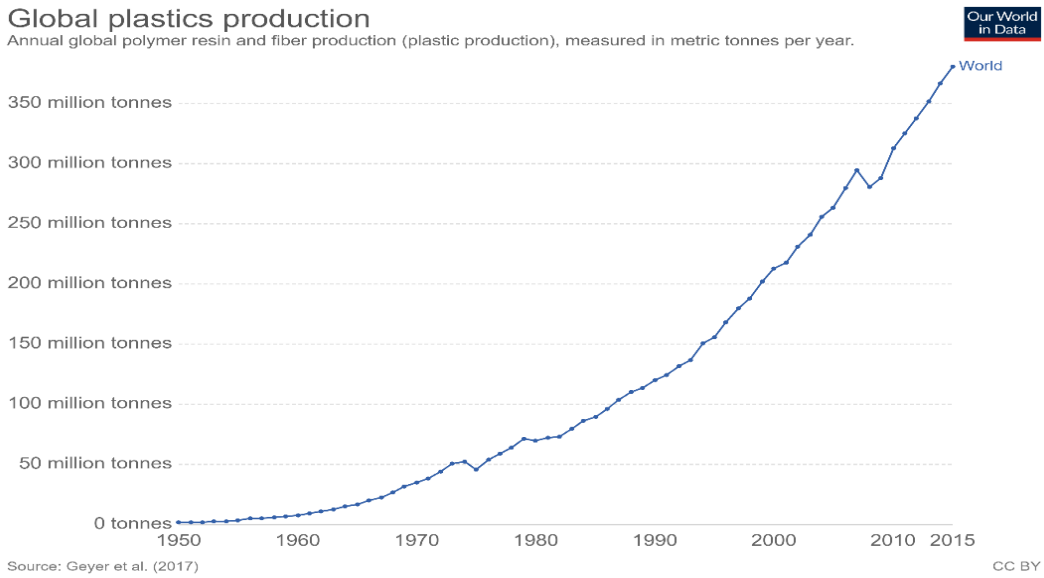
From other side, we have been using plastic for years and years now and its footprints are observable almost anywhere. Because of its usage, we are witnessing terrible negative impact towards the nature. Due to the impossibility of its complete degradability today, we are facing an enormous problem. The impact on land and water can see for the both. "Due to the high disposability and low recovery of discharged materials, plastics materials have become debris accumulating in the environment." (Rocha-Santos & C Duarte, 2015) All this affects life throughout the ecosystem. Animals die because of strangulation or poisoning after plastic waste ingestion. Polluted soil and water affect all consumers of these land resources. In thus observed the destruction of life around us, not only of humanity, but also of the other inhabitants on this planet.

According to early research from Rochman, Cook and Koelmans (2016) since "Capitan Charles Moore introduced the world to the "Greath Pacific Garbage Patch" in the mid – 1990-s" "there has been increasing interest from scientists, the public, and policy makers regarding plastic debris in the environment." (Rochman, Cook, & Koelmans, 2016) The truth that it is one of the main culprits behind the deaths of so many living creatures, as well as global warming, ocean pollution and climate change, is clear. Recently, there has been an increasing awareness and active involvement of people around the world in the plastic case. Many other studies from different scientists have shown that plastic waste does have irreversible negative impact on the environment as well.

As stated in the scientific publication "Plastic Pollution" (Ritchie & Roser, 2018) world plastic production grows from some 2.00 million tonnes per year in 1950 to 381 million tonnes in 2015. (*Fig. 1.)* That means over these 65 years, "annual production of plastics increased nearly 200-fold. For context, this is roughly equivalent to the mass of two-thirds of the world population" (Ritchie & Roser, 2018).

As it has become clear, plastic has many physical advantages over other materials. Due to its low-cost, it is widespread and used. What exactly affects the usage of plastic and what are the ways of its reduction? According to Speth's article (1988), "today's pollution is integrally related to economic production, modern technology, life-styles, the sizes of human and animal populations, and a host of other factors." (Speth, 1988) From the study's standpoint, becomes clear that one of the main factors influencing the plastic use and plastic waste creation is the economy.

FIGURE 1
Global Plastic Production. Source: "Our World in Data"



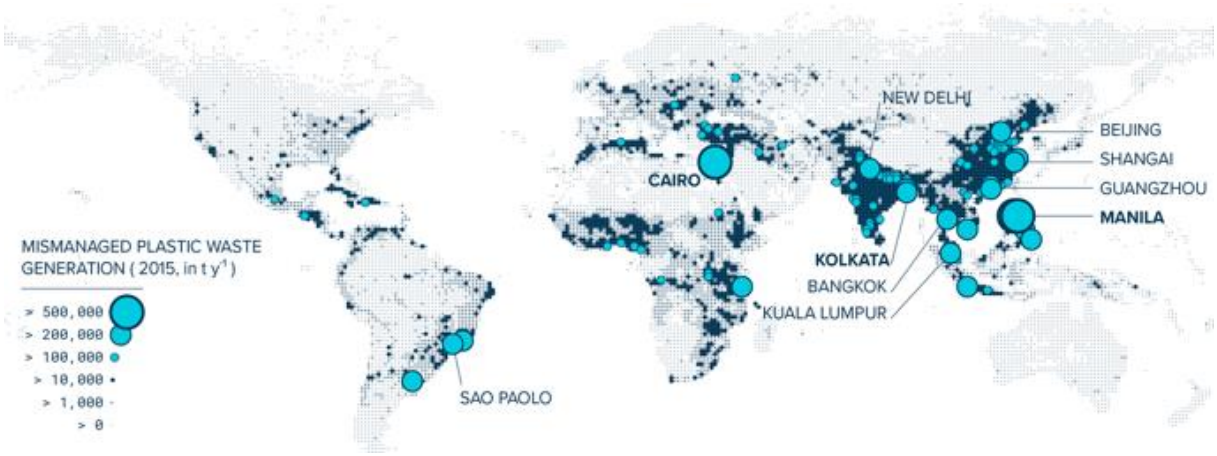
The aim of this paper is to evaluate the impact of the level of economic development on plastic waste generation. The chosen objects of study are the countries of the European Union. Therefore, this paper investigates the statistics data of generation of plastic waste per capita in EU countries for the period 2004 - 2016 and the trends in the gross national income per capita for all investigated countries.

This study is designed to assess the hypothesis that the higher the incomes of the population, the more plastic waste is generated, due to the increased purchasing power and the afford to buy plastic items which after consumption becomes waste.

Before understanding what is the connection between gross national income and plastic pollution per capita in the EU first are going to consider where in the world plastic pollution rank list is it.

In the article by Lebreton and Andrady (2019), we could see the main plastic pollutant for 2015 year. *(Fig. 2.)* It shows that the Asian continent was "the leading generating region of plastic waste with 82 Mt, followed by Europe (31 Mt) and Northern America (29 Mt). Latin America (including the Caribbean) and Africa each produced 19 Mt of plastic waste while Oceania generated about 0.9 Mt." (Lebreton & Andrady, 2019)

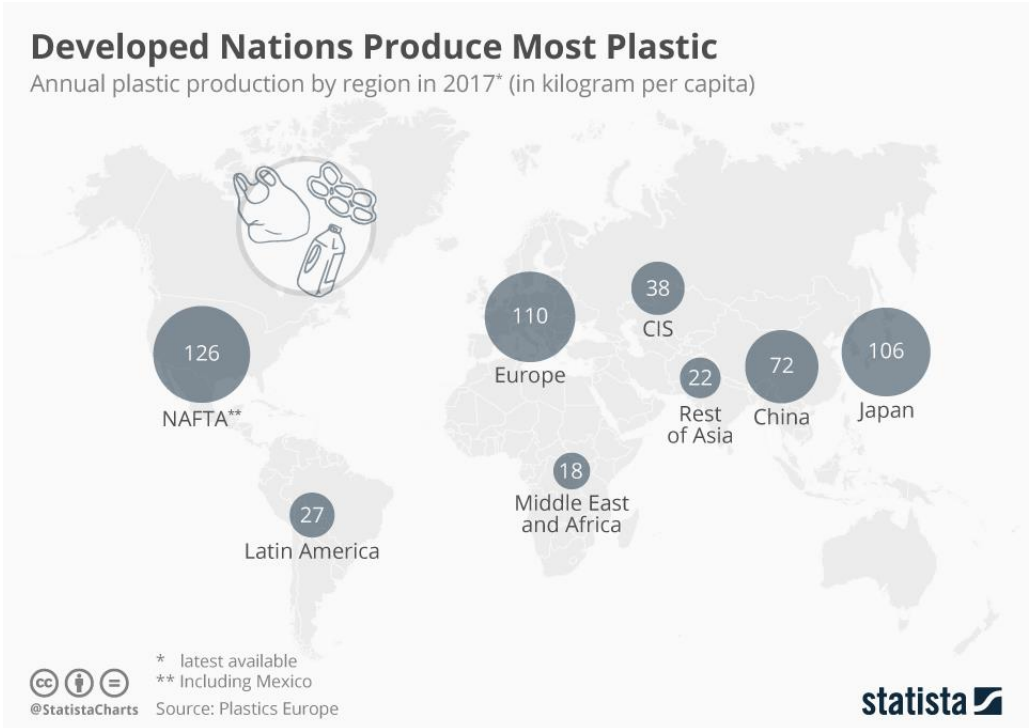
FIGURE 2
Global mismanaged plastic waste generation in 2015



Source: "Palgrave communications; Humanities Social Sciences".

According to another publication, related with the topic, as might be seen the Europe i**s** at the forefront of plastic pollution. (Buchholz, 2019). Fig. 3 shows that regions like NAFTA, Europe, Japan and China generate the most plastic waste in 2017.

FIGURE 3
Developed Nations Produce Most Plastic, Annual plastic production by region in 2017 (in kilogram per capita)



Source: "Statista".

The presented data, observing a strange phenomenon regarding the level of pollution from the states all over the world. According to scientific explanations "high-income countries typically have well-managed waste streams and therefore low level of plastic pollution to external environments." Then why despite the fact that the countries from EU is committed to more innovative and environmentally friendly products and creates and develops sustainable development policies, number of studies shown that it is one of the main generators of plastic waste. Whether the level of economic development has real impact on it?

METHODOLOGY AND RESULTS

To determine whether there is a connection between the economic development and plastic waste generation in the European Union region, the strength of the relationship between generated waste per capita and gross national income per capita is going to be evaluated. The calculations are basing on the period 2004 – 2016.

The methodology is based on linear regression ("Panel Least Squares"), using panel data that combines two components – country fixed effects and period fixed effects. This is a type of statistical measurement "that attempts to determine the strength of the relationship between one dependent variable, in this case this is the *"waste per capita"* and a series of other changing variables - known as independent variables", (Investopedia, 2019) (in this case the "*gross national income per capita in USD*" for all counties among the European Union).

Linear Regression Analysis is the simplest form of a regression analysis that uses one dependent variable and one independent variable. In this simple model, a straight line approximates the relationship between the dependent variable and the independent variable. (Devault, 2019) The core idea is "to obtain a line that best fits the data". (Swaminathan, 2018)

For the calculation should be used the following equation. To find out the dependent variable – plastic waste per person, it is need to multiply "beta" by gross income per capita for the respective country and to add the constant, country fixed effect (which is same for the all years but different by county) and period fixed effects (which is same for all countries but different for years).

$$WASTE_{CAP} = \beta * GNI_{CAP} + C + [CX = F, PER = F]$$

Where:
$WASTE_{CAP}$ – Plastic waste per capita;
GNI_{CAP} – Gross national income per capita;
β - The slope of the regression line (how much Y changes for each one-unit change in X);
CX = F – Country effects fixed;
PER = F – Period effects fixed;
C – Constant;

The constructed panel data set for all 28 EU member states is covering the period 2004-2016 with two-year interval. The conduction of the analysis is with bi-annual data for each country, retrieved from Eurostat (Eurostat, 2019) and World Bank Group (US). (World Bank Group, n.d.)

The table below shows the results after the calculations according to the given formula. (Table 1.)

TABLE 1
Panel Linear Regression Analysis

Dependent Variable: WASTE_CAP
Method: Panel Least Squares
Date: 08/26/19 Time: 22:11
Sample (adjusted): 2004 2016
Periods included: 7
Cross-sections included: 28
Total panel (balanced) observations: 196

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GNI_CAP	0.001758	0.000605	2.907010	0.0042
C	-25.88012	19.14305	-1.351933	0.1783

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

R-squared	0.587895	Mean dependent var	29.66837
Adjusted R-squared	0.500866	S.D. dependent var	22.79400
S.E. of regression	16.10382	Akaike info criterion	8.556423
Sum squared resid	41752.62	Schwarz criterion	9.141800
Log likelihood	-803.5294	Hannan-Quinn criter.	8.793412
F-statistic	6.755206	Durbin-Watson stat	1.773725
Prob(F-statistic)	0.000000		

The obtained results show a statistically significant positive relationship between the two variables – GNI per capita and Generate Plastic Waste per person. At a first glance, the relationship may seem very weak judging by the value of 0.001758. In this case, beta's value shows with how much the plastic waste per person going to change if unit of income change in absolute terms. This means that if income per person increase by 1$ the generated plastic waste per person also going to increase, but with 1.7 grams. If we assume that the total income for the study period increased by $ 1000, this means that the generated amount of plastic waste per person increased by as much as 1.7 kilos, which is a high amount considering that this is only a fraction of the kinds of waste that human makes. If we take as example a county like Estonia and tracing how much income per capita had changed during the period 2004 – 2016, it could be found that there is an increase of $ 16 490. This in turn

means that the generated plastic waste per person has increased by 28 kilos – enormous waste quantity only for one person. From this calculation, could be concluded that „β“parameter is statistically significant and the hypothesis is proven.

As we see from the table, (Table 1.) the value of “R-squared” (the coefficient of determination, which shows the model’s ability to describe real data) is approximate 59%. Therefore, the interpretation of the significance of the created case study model might be describe as “strong”. The Adjusted R-squared value is 0.50, with approximately 8% difference from the R-squared. If we had more independent variables, it would have stronger significance for the case. Still this value has a positive meaning.

Due to the fact that the panel regression model is characterized by providing a more detailed analysis, we could find different features related to plastic pollution in the observed countries from the European Union. In the used method, country effects describe country-specific characteristics not covered or described by factors in the model. The data from the attached table express what the deviations from the average pollution values for the EU as a whole (Table 2.).

As could be seen counties like Denmark, Finland, France, Germany, Luxembourg, Malta, Netherlands, Spain, Sweden and United Kingdom have negative values, which means that pollution in these countries is less than the Union’s average rate due to unexplained, but county-specific reasons. For example, Denmark has 35 kg. less plastic waste per person than the average for the EU.

The rest countries – Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia and Slovenia have positive values, which means that the plastic pollution in these counties is more than the Union’s average rate, again due to the unexplained, but county-specific reasons. For example, Belgium has 40 kg. more plastic waste per person than the average for the EU.

TABLE 2
Country fixed effects

	EU_COUN...	Effect
1	Austria	5.066285
2	Belgum	40.12644
3	Bulgaria	14.40465
4	Croatia	6.973825
5	Cyprus	27.82610
6	Czechia	6.628902
7	Denmark	-35.52086
8	Estonia	27.25305
9	Finland	-25.09981
10	France	-15.50499
11	Germany	-20.85822
12	Greece	11.77326
13	Hungary	7.034015
14	Ireland	2.773225
15	Italy	4.628284
16	Latvia	1.857047
17	Lithuania	4.041823
18	Luxembourg	-39.40190
19	Malta	-13.68828
20	Netherlands	-24.61015
21	Poland	10.36280
22	Portugal	11.74573
23	Romania	15.70027
24	Slovakia	3.010258
25	Slovenia	1.502253
26	Spain	-1.407604
27	Sweden	-25.90544
28	United King...	-0.710962

Looking at the time effects table, we could see how plastic pollution has changed over the study period. It represents the total deviation for all countries over time relative to the average amount of waste per person. Time-fixed effects are general, not country-by-country, but they change over time. The obtained results allow us to observe a clear and stable reduction of waste per capita during the observed period. (Table 3.)

TABLE 3
Time fixed effects

	DATEID	Effect
1	2004-01-01	11.66129
2	2006-01-01	11.13679
3	2008-01-01	0.711574
4	2010-01-01	0.219681
5	2012-01-01	-7.801961
6	2014-01-01	-5.711779
7	2016-01-01	-10.21559

For example, in 2004 there were around 11 kg. plastic waste per person more that the average for all study period. In 2016, there were 10 kg. less than the average per all study period, which outlines pronounced reduction in plastic pollution. This indicates that there is a reduction in generated waste, which in turn helps to reduce pollution.

CONCLUSION

Plastic is one of the most used materials in our daily lives. The plastic waste is undeniable one of the greatest pollutants of our planet. According to the figures, the European Union is one of

the most plastic polluted areas in the world. To find out whether there is a relationship between population income and the level of plastic pollution, a linear regression ("Panel Least Squares"), using panel data that combines two components – country fixed effects and period fixed effects. Although the data show that income has a positive impact on the generation of plastic waste, because of the large variations in income over time, the figures obtained over the years of the study period show that there is a steady decline in generated waste amount. This, in turn, may be due to changes in the way people think and live, as well as to the policies adopted in EU countries.

Grossman's statement that there is growing concern that the continued expansion of the global economy will cause irreparable damage to the earth's environment and reduced quality of life for future generations is more than valid today. (Grossman, 1993) The truth is that we have such a huge privilege to live in times where we have access to so much information and resources to deal with such a serious problem. We are witnessing various innovative products, plastic substitutes, through, which could be reduce our negative impact on the environment. To make this vital goal for us a reality, we need to spread the idea and move as many people as possible to it. Only by realizing the problem we could create a more sustainable economy, create new rules, a new way of living in harmony with the nature around us! We are the last generation who could make the difference before it is too late!

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Study on Waste Classification and Recycling of Tourism in Southeast Europe – Take the Statue of Liberty Island

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ABSTRACT: Tourism plays an important role in the economic development of southeast Europe. This paper will use the example of statue of liberty island in the United States to study the sustainable development of tourism and cite the effect of garbage classification in Shanghai to elaborate on it so as to draw a partial and systematic plan for the sustainable development of tourism in southeastern Europe, especially catering industry.

Keywords: catering industry, recycle, sustainability, tourism.

INTRODUCTION

Catering waste has always been a harsh fragment of tourist industry. When people head out for traveling, food becomes an essential element of their journey. Whereas it comes along with tons of wastes. The disposal of these amount of wastes determines the sustainability of the travel industry of southeastern Europe. This article discusses two examples from the United States and China regarding the disposal method of trash, which turns into benchmarks that southeastern Europe might willing and eventually to catch up with.

ECONOMIC BACKGROUND AND BUSINESS INDUSTRIES OF SOUTHEASTERN EUROPE

Southeast part of Europe has always been a charming place for tourists to visit nearly decades. Southeastern Europe covers the Iberian Peninsula, the Apennine Peninsula and the southern Balkans, including Spain, Portugal, Andorra, Italy, Greece, Malta, Vatican, San Marino, Slovenia, Croatia, Albania, Romania. There are 17 countries, and they are Bulgaria, Serbia, Montenegro, Macedonia and Bosnia and Herzegovina. This particular part is also known as Mediterranean Europe since most southern European countries are close to the Mediterranean Sea. The area is about 1.66 million square kilometers. Southeastern Europe is bordered by Asia and Africa across the Mediterranean Sea. It has been close to West Asia and North Africa since ancient times. It is also an important origin of ancient civilizations. For the western world, Southeastern Europe has nurtured ancient Greek and Roman cultures, and it established an early Christian society and laid the foundation for western thought and knowledge systems (Gao, 2007).

Southeastern Europe has a superior geographical position, i.e., with the Alps in the

north, the Black Sea in the east, the Mediterranean Sea in the south and the Atlantic Ocean in the west. Most of the regions have a Mediterranean climate with less rainfall and the hottest weather in Europe. Its economic crops are rich in citrus and olives. This region has developed in well shape with a few countries being developed countries. Due to its special geographical location, it has become a transportation center connecting Europe with the outside world. The total population is more than 180 million, the average density is 150 people/km2, and the population density is high, whereas the distribution of population is uneven across the continent (Gao, 2007).

The level of economic development in southeastern Europe is quite different. Although most countries are developed countries, there are still many factors that limit economic development, e.g., the fragmentation and barrenness of cultivated land. The industrial scale is too small, and the technology is backward compared with Western Europe and Central Europe. This area is the lowest industrialized areas amongst Europe. There are also projects to make up for its economy: tourism, remittances (Zou, 1998).

Agriculture

The typical climate of the Mediterranean forms a unique type of Mediterranean agriculture. This type of agriculture is a mixed agriculture with equal emphasis on planting and animal husbandry. The dominant crops are wheat, barley, etc., which mostly concentrated along the Danube, especially Romania. There are also many horticultural crops such as grapes, citrus and olives on the Mediterranean coast. Other crops include Portuguese chestnuts, Bulgarian reeds and roses, etc. Bulgaria is known as the “country of roses”. Its rose has always been internationally renowned. The rose is a high-oil rose, which can be produced into quality rose oil, and export volume ranks as the first in the world. Besides that, this country also produces yogurt and wine (Zou, 1998).

Industry

Except for the industrial areas in northern Italy, Industrial Development in most parts of southeastern Europe is underdevelopment. The main industries in the region are processing industries. The energy and raw materials demand highly depends on foreign importation. More than one third of the industrial products are for exporting. The state participatory enterprises are relatively developed. Italy's crude oil processing capacity is about 100 million tons per year, known as the "European Refinery"; and its steel production ranks second in Europe; plastic industry, tractor manufacturing, electric power industry, garment leather

manufacturing, etc. also ranks first in the world. In addition, Spain's shipbuilding, automobile, Bulgaria's food processing (wine, dairy products), Romania and Serbia's machinery, mining and other industries are more influential in comparison with its western counterparts. Other countries on this land are mostly underdeveloped with fragile industrial base, i.e., small scale in production and relatively backward technology (Zou, 1998).

Tourism

Tourism is often the economic pillar of many southeastern European countries, accounting for a large proportion of income. Some countries rely entirely or heavily on tourism industry, such as the Vatican, Malta, Monaco and so on. Italy, Spain and Greece are major tourist countries in this area. Scenic views of Southeastern Europe are mainly humanistic orientated with many historic sites. The region has more than 120 World Heritage Sites, which is an important factor for "soliciting tourists" in Southeastern Europe. There are famous tourist cities such as Rome, Naples, Venice, Florence, Athens, Barcelona and Madrid. Famous scenic spots encompass the ancient Roman Coliseum in Italy, the Leaning Tower of Pisa, Pompeii, the Vesuvius Volcano, the Acropolis in Greece, Crete Island, Olympia, the Saint Family Cathedral in Spain, the Seville Cathedral, the Bali Ali Islands, Acremen and so on. Furthermore, there are Slovenia, Bosnia and Herzegovina, and Cave landscape in Segovia (Zou, 1998).

With all the aforementioned information, it is not harsh to discover the economic essence of southeastern Europe. Nowadays, tourist industry has become the most preeminent economic booster amongst all means of income. Thus, this article will be mainly discussing the sustainability of the tourist industry, particularly catering industry in which it involves with waste recycling procedure. A well-planned recycling system of food wastes is capable of plumping the wastes of materials and enhancing fiscal income per se.

A standard food wastes recycling system often commence with trash classification, I.e., there will be trash that are able to be recycled and reused such as glasses, plastic bottles, and soda cans, meanwhile, there are trash like food wastes that cannot be reused (in this case, other remedies may be used to reinstate food wastes as recyclable waste such as trash burning electricity generator.) After trash have been classified, the recyclable piece can be sold to garbage recycle companies, which generates some income outside of ordinary course of business. Taking an example of the state of California, the state stipulates a redemption value of soda cans, which incents people to collect and sell their empty soda cans back to the state or garbage recycle business. These people will gain some extra income and the state or

recycling business can reuse the materials from the cans and sell them back to soda production industry so as to form a sustainable cycle.

A Field Research in Evelyn Hill, Inc., New York

Therefore, I went to New York during the summer vacation to conduct research on an exclusive catering service company on the statue of liberty island. The following paragraph is the introduction of this company.

Evelyn Hill, Inc. has always been interested in conservation and environmental protection. As the official concessionaire of the Statue of Liberty National Monument and Ellis Island, it has made great steps forward on their path toward sustainability and environmental low impact operations. Some of their efforts are outlined below, as well as their environmental accomplishments.

Over 390,000 Pounds of material was recycled in 2011. 95% of all refuse was recycled.49,000 Pounds of compost was generated.17,000 pounds of compacted plastic bottles were recycled. LEED Platinum Certified Geothermal heating & cooling system that reduces energy demand by 35%. Recycled content of the building is 43%. LED lighting reduces electric demand by 65%. Rainwater collection reduces water usage by 40%. Recycling of 95% of construction waste. Restrooms feature waterless urinals and ultra-low flush toilets equipped with water sensors, saving approximately 395,000 gallons of water per year. Used cooking oil from Crown Cafe powers a generator that provides some electricity to the gift pavilion (Staff of Evelyn Hill, 2018).

Any organization purchases electricity to use can be a significant source of air pollution and greenhouse gas emissions. This is why Evelyn Hill joined the “EPA Green Power Partnership” and has reduced its environmental impact while also providing these valuable benefits to its internal operations on the islands. Their sustainability efforts reduced Green House Gases (GHGs) on the Island by more than 693 metric tons of carbon dioxide equivalent in 2011 of removing 136 passenger vehicles from the road each year (Staff of Evelyn Hill, 2018).

Hedge against future electricity price increases, by an efficient energy usage. Each night they turn off every bulb, so electricity isn’t wasted when no one is there. Also, all new equipment is ENERGY STAR qualified, which serves as a brand differentiation; generating customer, investor, or stakeholder loyalty and employee pride. It further creates positive publicity and enhance the organization’s public image, and it demonstrate civic leadership.

Evelyn Hill, Inc. helps fund carbon reduction and clean energy projects in their efforts to reduce our environmental footprint as well as set the industry standard in green technology. We buy free-trade, certified organic coffee grown in the shade, which prevents cutting down forests to grow coffee.

By serving condiments and creamers from a pump system instead of individual packets, they have eliminated more than 3 million condiment packets and 495,000 single-serving creamer cups per year (Staff of Evelyn Hill, 2018). Unlike most other coffee cups, which have a corn starch rather than petroleum-based lining and are completely biodegradable, compostable, and chlorine-free, but still hold hot beverages safely. Instead of sending used cups to the landfill, they are composed. They serve their meals in reusable and washable tableware. These materials are safer to eat off, prevent waste, and save money. Also, they have worked with vendors to eliminate excess packaging wherever possible. Their dinner napkins, toilet paper, office paper, gift shop bags, gift boxes and postcards are made with recycled content. All of their chemicals meet the criteria for Green Restaurant certification (Staff of Evelyn Hill, 2018).

In addition, I conducted a field survey of the company. A total of 275 tourists were surveyed, 193 of whom took the initiative to classify garbage, accounting for 70.18%. The following problems were found, Garbage classification signs are not obvious enough for tourists to find, Garbage classification type is not refined enough and needs to be selected again. There is a lack of supervision and reward mechanism for tourists' garbage classification.

Shanghai Is on the Move; Trash Classification Initiative

On the other hand, in recent months, Shanghai has also been fully implementing the popularization of municipal garbage classification, which has achieved remarkable results in terms of data at the present stage.

Shanghai is the first city in China to carry out comprehensive household waste classification. Compared with the past urban household waste management system, it adds front-end supervision and separates dry and wet waste from the source. Data from the national bureau of statistics shows that currently, the harmless treatment of waste in Shanghai has reached 100%, and the proportion of harmless treatment of waste incineration is increasing. According to the "action plan for the construction of the whole-process classification system of domestic waste in Shanghai", the capacity of wet waste treatment in Shanghai in 2018 is 3,480 tons each day, including Shanghai liming treatment plant with the capacity of 300 tons

each day and Shanghai environment with the capacity of 180 tons each day, which is obviously insufficient compared with the theoretical capacity. Therefore, Shanghai has carried out a series of construction of wet waste treatment system. By the end of May 2019, Shanghai's wet waste production capacity has basically matched the output, and several indicators have exceeded the targets set in the action plan. In terms of waste metering and charging system, the 2019 regulations of Shanghai municipal household waste management clearly states that Shanghai will gradually establish a charging system for household waste treatment based on the principle of "whoever produces the waste shall pay".

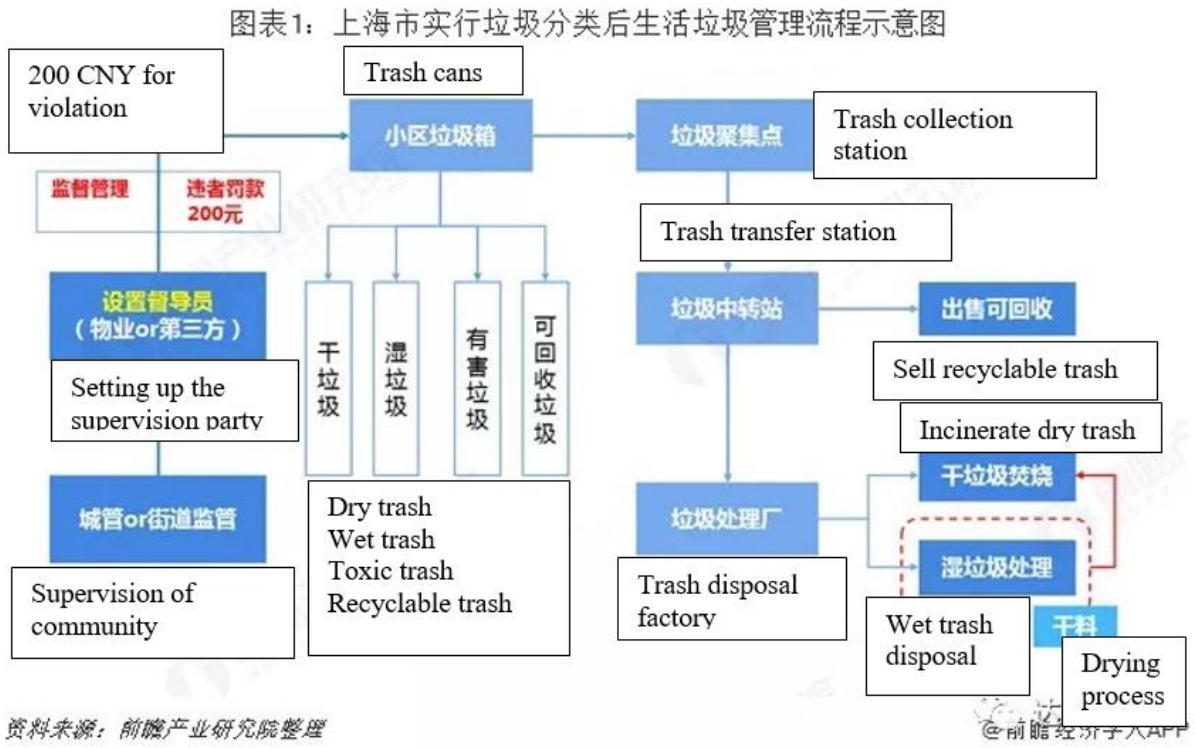
The harmless treatment of waste has reached 100%. Shanghai is the first city in China to carry out comprehensive household waste classification. Compared with the past MSW management system, the major changes are as follows: first, front-end supervision is added; Secondly, wet and dry waste is separated from the source, and an independent wet waste transport and treatment link is established. Third, recyclable garbage tends to centralize management; Fourth, separate collection and disposal of hazardous waste.

Generally speaking, hazardous waste, wet waste and dry waste shall be classified and used for disposal. First, hazardous waste shall be disposed innocently by means of high-temperature treatment and chemical decomposition. Second, wet waste can be used for resource utilization or harmless disposal by means of life treatment, marsh production and composting. Third, dry waste incineration and other methods for harmless disposal.

After 2014, all the garbage transported in Shanghai has been innocently treated. In 2017, the garbage collected in Shanghai reached 7.43 million tons, and the average garbage collected per day was 841g （Zhongshangchanyayanjiu，2018).

Due to the scarcity of land resources in Shanghai, the landfill-based waste treatment mode is not sustainable. Currently, Shanghai is making continuous efforts towards "higher recycling rate and lowest landfill proportion". According to data from the national bureau of statistics, the proportion of municipal waste incineration increased significantly from 2011 to 2017, while that of landfill decreased slightly. Compared with 8.41% in 2011, the proportion of municipal waste incineration increased to 48.55% in 2017. In July 2019, the second phase of Shanghai renewable energy utilization center was officially opened, with an additional 6,000 tons of incineration capacity per day, and the proportion of landfill waste is expected to be further reduced (Zhongshangchanyayanjiu, 2018). Wet waste capacity has basically matched the output.

FIGURE 1
Flow chart of trash disposal procedure



According to the Shanghai life garbage classification system of the whole construction plan of action, according to the 2018 Shanghai wet garbage disposal capacity of 3480 tons/day, including the processing capacity of 300 tons/day of Shanghai dawn plants and 180 tons/day of processing units, such as an environment compared with the theoretical capacity current ability is obviously insufficient. In view of this situation, Shanghai has gradually increased its wet waste treatment capacity to 6,300 tons per day by 2020, and gradually reduced the upper limit of dry waste terminal treatment to 18,100 tons per day by 2020 (Zhongshangchanyayanjiu, 2018).

Judging from the progress of Shanghai in improving its own wet waste treatment capacity, as one of the first domestic pilot cities of household garbage classification and collection, Shanghai has been building a garbage classification system since 2000. In terms of the government, since 2011, Shanghai has established the "2+X" mode based on "wet and dry separation", which lays a foundation for the separation of wet waste (non-greasy kitchen waste and kitchen waste collectively referred to as wet waste) and the subsequent improvement of demand for wet waste disposal. Subsequently, Shanghai successively promulgated "measures of Shanghai municipality for promoting the classification and reduction of household waste", "implementation plan of Shanghai municipal wet waste treatment", and even the latest "regulations of Shanghai municipal household waste

management" and other laws and regulations, providing an effective basis for the promotion and management of wet waste treatment facilities and equipment（Zhongshangchanyayanjiu，2018). At the same time, with the vigorous construction of government practical projects to support the construction of waste classification and wet waste disposal system, Shanghai's wet waste disposal capacity has also achieved steady improvement through diversified facilities and processes.

Waste metering and charging system is under construction. Compared with other cities, the 2019 regulation of Shanghai municipal solid waste management clearly states that Shanghai will gradually establish a charging system for the treatment of solid waste based on the principle of "whoever produces the waste shall pay for it" Zhongshangchanyayanjiu, 2018). On the technical level, Shanghai is the first city in mainland China to implement mandatory garbage classification, and the implementation time is limited. The specific mode of garbage charging needs to be explored in practice. And compared with the target garbage classification in Tokyo, Japan, the development speed of the garbage metering and charging system in Shanghai needs to be further accelerated.

CONCLUSION

Sustainable development of tourism can not only help alleviate environmental pollution but also bring some economic value, which is a task that requires joint efforts of various parties. The government should introduce relevant policies to vigorously promote garbage classification, recycle and reuse garbage in scenic spots and cities, reduce taxes on green enterprises, and increase supports. Enterprises shall assume their corporate responsibilities, enhance the concept of sustainable development and adopt environmental protection technologies in their operations; Tourists should improve their concept of environmental protection and protect the environment during their travels.

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Industry, Innovation and Appropriate Infrastructure in the Countries of Southeast Europe and the Black Sea Region

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ABSTRACT: The secondary sector is undoubtedly one of the main pillars of a national economy. Industrial growth is a major source of income generation as it creates new jobs and increases the standard of living of people. In this paper, emphasis is placed on the 9th objective of sustainable development, ie industry, innovation and appropriate infrastructure focused mainly on the countries of Southeastern Europe, and at the same time a brief reference is made to the objectives set by this target by 2030. Thereafter, a comparative analysis between the countries of the European Union and the countries of Southeastern Europe is made to indicate whether the secondary sector contributes to the development of these countries, namely whether it has a positive or negative impact on these economies. Different economic indicators are used for this specific comparative analysis. Finally, taking into account the results of the comparative analysis, a number of policies to improve these countries are proposed for a possible deviation from the objective of sustainable development.

Keywords: comparative analysis, economic indicators, industry, innovation, infrastructure sustainable development.

INTRODUCTION

Sustainable development is a prime concern for the European Union. Along with the 17 goals set by the UN by 2030, the objective is a more just and peaceful world. Working together on goals is an important part of bringing sustainability to the planet, where economic, social and environmental aspects are interconnected to achieve this sustainability. Particularly important for the growth of an economy, in addition to the primary sector, is the secondary sector. Investment in industry and innovation in an economy is one of the UN's 17 goals for sustainable development.

This paper focuses on sustainable development in the South East Europe region, focusing on the 9th UN sustainable development objective. The work is an empirical study evaluating industry indicators between the EU countries and the countries of the Western Balkans, comparing whether focusing on industry helps an economy to grow.

The first section makes reference to some definitions in general, those of sustainable development and sustainability. It goes on to give some important points on the 17 sustainable development goals focusing mainly on the 9th Sustainable Development Goal.

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The second section focuses on industrialization in the countries of Southeast Europe, specifically those of the Western Balkans, that is, there is a small historical evolution of the industry as well as what sector each country is focusing on. Finally, the EU's relationship with the 9th Sustainable Development Goal is also mentioned.

In the third section, two indicators are analyzed, the first is the sustainable development index and the second is the general industry index. On the basis of these two indicators, a comparative analysis between the EU and the Western Balkan countries is made.

The last section presents some general conclusions based on the comparative analysis made in the 3rd section between the EU and the Western Balkan countries. There are also some policies that the above-mentioned countries could pursue to achieve better results in terms of sustainable development goals, and in particular the 9th sustainable development objective.

SUSTAINABILITY AND SUSTAINABL DEVELOPMENT GOALS

General Definitions

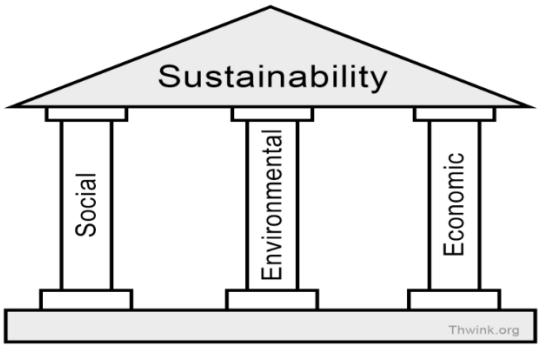
Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This concept was created, because in recent years people's reckless use of natural resources has led to more general concern about their adequacy and the ability of nature to replenish them. Sustainable development is vital to improving the standard of human life, which should combine responsibility and social sensitivity. So, a new concept is introduced- that of sustainability.

Sustainability is a model of production, which aims at the best economic outcome for both the human and the natural environment, both in the present and in the future. Its key element is the balance between the production of goods and raw materials. The goal of sustainability is to have more production success with as little raw material consumption as possible, that is why natural resources should be used at a lower rate than they are renewed, otherwise the environment is subject to degradation.

Thus, with reference to the definitions of sustainable development and sustainability, it is important to mention all **three pillars of sustainable development,** which include economic, social and environmental sustainability. Social sustainability refers to the ability of a social system (e.g., family or organization) to operate at a predetermined level of social welfare indefinitely. Economic sustainability is the ability of an economy to sustain a certain level of economic output indefinitely. And finally, environmental sustainability is about the ability of the environment to support a certain level of environmental quality, as well as the

rates of consumption of natural resources indefinitely. This is the biggest problem and the biggest challenge simultaneously.

FIGURE 1
Three pillars of sustainable development



The combination of all the above has led to the establishment of global sustainable development goals. More specifically, in September 2015 the UN General Assembly in New York adopted 17 goals, known as the 17 sustainable development goals by 2030, which express the contemporary global challenges in an effort to meet everyone's global problems that oscillate the planet. This global agreement committed the majority of leaders representing humanity, to create a world free of poverty, hunger and inequality. A peaceful and sustainable world without the threat of climate change. A world where today's needs can be met without jeopardizing the needs of future generations, that is to say sustainable development. As António Guterres, Secretary-General of the United Nations mentions:

> The Sustainable Development Goals are the path that leads us to a fairer, more peaceful and prosperous world, and to a healthy planet. It is also a call for solidarity between generations. There is no greater task than investing in the well-being of young people.

Highlights of the 17 Sustainable Development Goals

In order to achieve these objectives, it is necessary to coordinate the cooperation of all those involved in the objectives, that is the Member States, NGOs and all ordinary people in general, in a nutshell the goals are global and they concern us all regardless of age and without exclusions. These goals are not simply promises for the future, but instead they are action plans on how to achieve the change that is sought. The main aim is to eliminate absolute poverty everywhere in the world, the fight against inequality, economic growth with the participation of all, but also the protection of the environment. The latter is a special issue for humanity, because climate change is a persuasive modern problem with consequences in all countries and continents. So protecting the environment is imperative.

9th Sustainable Development Goal (Industry, Innovation and Infrastructure)

The industry has undergone rapid changes in recent years and this is mainly due to technological development. New products and services are being created in an environment that is constantly changing and at the same time technological developments play an important role, as well as new business models for the production of these products and services. These data justify the need to adapt to new data and the ability to stimulate industrial competitiveness.

This adjustment is necessary, because industry is an important part of promoting an economy. More generally, the secondary sector is an integral part of the development of an area. The processing of raw materials with modern machinery and new production systems in areas where the primary sector does not contribute so much to production is particularly necessary and efficient. Industrial development, which is a source of income generation, which increases people's standard of living in order to be considered sustainable in line with the UN's objective, must also meet the necessary criteria for environmental protection, that is, there must be environmental responsibility.

Indicative points that the UN has set based on industry, infrastructure and innovation are:

- Creating and upgrading quality and sustainable economic growth infrastructure accessible to all
- Increasing the employment rate in the industry by 2030 and promoting sustainable industrialization
- Enhancing scientific research and encouraging innovation
- Increasing the access of small-scale industrial and other enterprises to financial services

INDUSTRIALIZATION IN THE EUROPEAN UNION AND THE WESTERN BALKANS

Industrialization in the Western Balkans

With the industrial revolution that took place in the mid-18th and early 19th century in Great Britain we have a historic period, where we see the change in agricultural production, which is evolving into industrial. This revolution

affected many countries besides Great Britain and extended to Western Europe, mainly to France. The key features of this revolution were the use of new technical tools in manual labor, the creation of factories, the exploitation of new forms of energy and the

implementation of innovations such as metallurgy. It is considered a particularly important period because this event changed the course of history. More job opportunities through factories, more and more innovations that have raised people's standard of living and generally brought about higher growth rates. This industrialization, which saw the conversion of agricultural production into industrial and thus developing the secondary sector of the economy, affected the whole world. Particular emphasis will be placed on the countries of Southeast Europe and the European Union, namely on what level of industrial production these countries are.

Starting with the countries of Southeast Europe which consist mainly of the countries of the Balkan Peninsula, these include: Albania, Bulgaria, Bosnia and Herzegovina, North Macedonia, Romania, Croatia, Cyprus, Montenegro, Moldova, Kosovo, Greece and Serbia. The following analysis will focus on the countries of Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia.

Albania's economy is mainly based on services (54.1%), agriculture (21.7%) and industry (24.2%). Its main areas are energy, agriculture, metallurgy, mining and tourism. Some of the major industrial exports it contributes to are clothing, oil and chromium. One could argue that Albania is a country that relies mainly on the primary sector. About 48% of the population is employed in agriculture, which contributes about 19% to the country's GDP. The main agricultural products are tobacco, fruit and vegetables. However, many workers are also employed in the secondary sector, such as in the clothing and footwear industries and others in the coal and oil extraction industries. But adverse working conditions as well as inadequate investment and speculative deals have almost destroyed the oil extraction industry.

The main sectors of **northern Macedonia** are services that occupy almost 69% of the country's GDP, with industry accounting for about 22% and lastly about 9% for farming. As for its industry, it focuses on food, textiles and metallurgy. The textile sector in particular has not developed much, as northern Macedonia does not produce textiles and the textile industry is made up of small businesses. This metallurgy depends mainly on ore imports and is supplied by local mines.

Montenegro began its industrialization late in the early 20th century due to a lack of raw materials and a low rate of investment. When it was still a member of the SFRY, there were textile and tobacco factories, as well as electricity, steel, aluminum and coal mining industries. After its independence it began to focus more on services and still relies on its services. Its goal is to become a tourist destination by attracting foreign investment and creating new infrastructure essential for tourism development.

Bosnia and Herzegovina is a country based mainly on agriculture. It has many forests that help with timber, in the highlands there are many pastures that breed horses and sheep and in the valleys they produce wheat, tobacco and fruit. This secondary sector consists of the iron, food and tobacco industries and exports of mineral ores, as the area is rich in minerals, coal and iron ores.

Serbia is particularly reliant on the tertiary sector as it accounts for 2/3 of the country's GDP. Serbia's main sectors are energy, automotive, agriculture and the mining industry. In particular, the industrial sector was more severely affected than any other sector by the UN sanctions. However, the major industrial sectors are the automotive industry (contributing significantly to exports), mining, manufacturing of electronics and pharmaceuticals, as well as the food industry, which is one of the highlights of the country's economy.

European Union and the 9th Sustainable Development Goal

The European industry is strong and maintains a leading position in many sectors of the world markets. The EU facilitates the transition to a smart, innovative and sustainable industry that benefits all its citizens. The European Union policy also aims to empower industry to carry out its activities in a responsible and sustainable way, create jobs by building new industries (virtually one in five jobs in Europe are in the industry), promote Europe's competitiveness and finally encourage investment and innovation. And all this in an environment that has undergone a huge industrial change, due to a new industrial revolution combined with rapid technological development. The EU's emphasis on investment, research, innovation and digital transformation make it competitive not only in Europe but around the world.

Now focusing on some indicative statistics, we can see the following:

- **Manufacturing** accounts for two-thirds of EU exports, provides jobs to 36 million people-one in five jobs in Europe- and contributes to the high standard of living of European citizens.
- **Investment in R&D**: Europe accounts for 20% of global R&D investment, generates one-third of high-quality scientific publications, and is a world leader in certain sectors such as the pharmaceutical and chemical industries, engineering design and fashion. The two largest R&D investors are business (65%) and higher education (23%), with the public sector accounting for 11% in 2016.
- **Patent applications** in the EU increased significantly before the financial crisis, and have remained stagnant ever since.

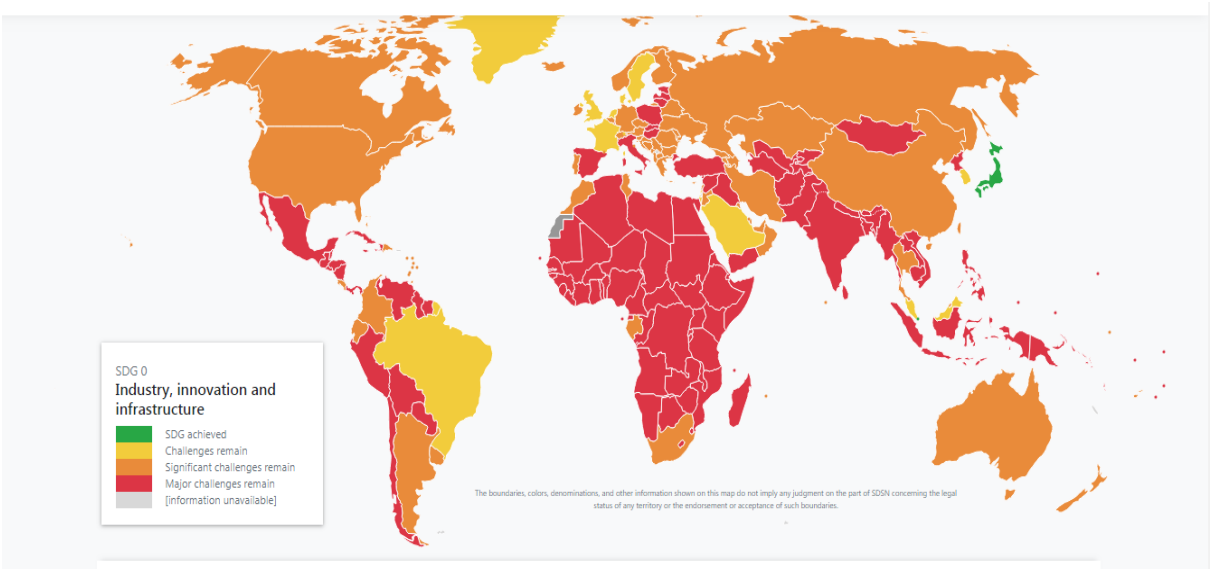
- **Corporate social responsibility**: 77% of EU companies include corporate social responsibility in their reports and many of them are pioneers integrating sustainable development goals into corporate social responsibility / responsible business behavior.

COMPARATIVE ANALYSIS BETWEEN THE EU AND THE WESTERN BALKANS

The Sustainable Development Goals Index

Based on the Sustainable Development Report 2019 prepared by teams of independent experts at the Sustainable Development Solutions Network (SDSN) and the Bertelsmann Stiftung, it is very interesting to focus on the performance of the European Union countries and the Western Balkans in relation to the 9th Sustainable Development Goal. Below is a map showing the world where the countries are achieving the 9th objective. Japan is the country that achieved this goal as shown in the map (green color). As for Europe and the Western Balkans and the EU countries, there is little differentiation. There are 5 countries that have achieved very good results which are France, Denmark, the United Kingdom, the Netherlands and Sweden, but some challenges still remain. Contrary to the aforementioned countries, eight EU countries have not achieved this goal and significant challenges remain to be met. These countries are Estonia, Spain, Italy, Latvia, Lithuania, Luxembourg, Hungary, Poland and Slovakia. We therefore note that there is relatively little differentiation between the countries of the European Union. However, as a whole, the EU is well on a good level.

FIGURE2
Industry, Innovation and Infrastructure



Source: Sustainable Development Solutions Network, Bertelsmann Stiftung.

A comparison between the EU and the Western Balkan countries shows that the EU is at a better level of efficiency than the Western Balkans. It is enough to look at the aggregated percentages of countries in relation to the 9th Sustainable Development Goal. In particular, Sweden and Denmark have achieved 91.7% and 88.1% respectively, the countries that have achieved this target. Finland and the Netherlands follow at 83.7% and 82.3% respectively. Overall, taking the EU as a whole reveals that 21 of the 27 countries are in the top 30 in the achievement rankings and 17 in the sustainable development goals and if we focus on the 9th target we are interested in, 19 out of the 27 countries are rated at over 50 out of 100. However, countries that have not achieved the target, such as Latvia, Lithuania, Hungary and Slovakia, account for over 45%. On the contrary, if we take the Western Balkans as a whole, it is reasonable to conclude that they have not achieved so much in the 9th objective, as 4 out of the 5 countries account for less than 35%. More specifically, the percentages are as follows: Montenegro (33%), Northern Macedonia (31%), Albania (28%), Bosnia and Herzegovina (24.9%) and Serbia (42.4%). Serbia alone appears to be well ahead of Bulgaria (41.2%) and Romania (41.5%) and is 44th in the world in achieving all 17 individual goals. The following is a summary of countries' ranking and scoring for the SDG overall, but also for the SDG 9th growth target. The tables are as follows:

TABLE 1
The 2019 SDG index for Europe: ranking and scores

Rank	**European Union**	**SCORE** .	Rank	**European Union.**	**SCORE.**
1	Denmark	85,2	26	Portugal	76,4
2	Sweden	85	27	Slovak Republic	76,4
3	Finland	82,8	28	Malta	76,1
4	France	81,5	29	Poland	75,9
5	Austria	81,1	30	Italy	75,8
6	Germany	81,1	32	Lithuania	75,1
7	Czech Republic	80,7	34	Luxembourg	74,8
9	Netherlands	80,4	36	Bulgaria	74,6
10	Estonia	80,2	42	Romania	72,7
12	Slovenia	79,4	50	Greece	71,4
13	United Kingdom	79,4	61	Cyprus	70,1
16	Belgium	78,9		**Western Balkans**	
19	Ireland	78,2	44	Serbia	72,5
21	Spain	77,8	60	Albania	70,3
22	Croatia	77,8	69	Bosnia and Herzegovina	69,4
24	Latvia	77,1	70	North Macedonia	69,4
25	Hungary	76,9	87	Montenegro	67,3

TABLE 2
The 2019 9th SDG index for Europe: ranking and scores

Rank	**European Union**	**SCORE**	.	Rank	**European Union.**	**SCORE.**
1	Sweden	91,7		17	Poland	54,9
2	Denmark	88,1		18	Cyprus	54,3
3	Finland	83,7		19	Greece	49,9
4	Netherlands	82,3		20	Slovak Republic	49,7
5	United Kingdom	81,4		21	Hungary	49,6
6	Germany	80,5		22	Latvia	49,3
7	Austria	80,2		23	Croatia	48,6
8	Belgium	75,9		24	Lithuania	45,4
9	France	73,6		25	Malta	43,3
10	Luxembourg	69,4		27	Romania	41,3
11	Spain	68		28	Bulgaria	41,2
12	Ireland	67,2			**Western Balkans**	
13	Italy	63,8		26	Serbia	42,4
14	Czech Republic	63,2		29	Montenegro	33
15	Estonia	61,5		30	North Macedonia	31
16	Slovenia	61		31	Albania	28
17	Portugal	56,1		32	Bosnia and Herzegovina	24,9

As analyzed above for the Sustainable Development Index for 2019 between the countries of the European Union and those of the Western Balkans, then a comparative analysis will be made between the two above groups of countries based on how they do regarding their industrial production. In particular, it will be examined whether their industry contributes to the countries' GDP and in which group more and more generally if it helps to grow their economy. The data has been compiled by the World Bank and Eurostat for the period 2008-2018 and shows a more general evolution of industrial production over this decade.

General industry index (including construction), % of GDP

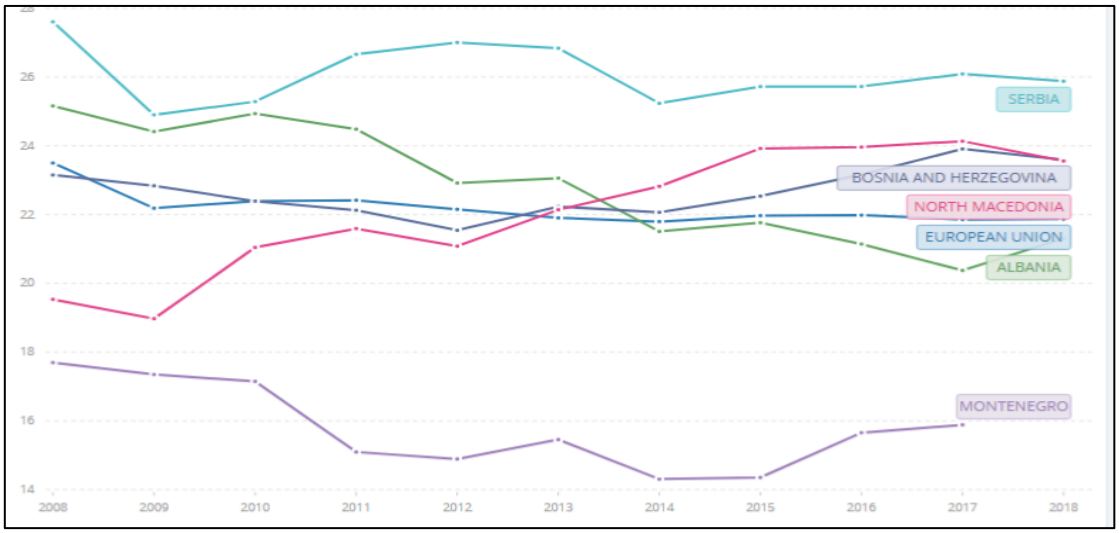
The first indicator selected is the general industry index, including construction, as value added (% of GDP). This index includes the added value of the extractive industry, manufacturing (also referred to as a separate subgroup), construction, electricity, water and gas. In particular, it addresses the following areas of industry: Manufacture of food, beverage and tobacco, textile, clothing and leather industries, manufacturing of wood and wood products, including furniture, production of paper and paper products, printing and publishing, production of chemicals, petroleum, coal, rubber and plastic products, production of non-metallic mineral products, excluding petroleum and coal products, basic metal

industries and the manufacture of processed metal products, machinery and equipment. The added value is the net output of a sector after adding all the results and subtracting the intermediate inputs. It is calculated without deductions for depreciation of processed assets or depletion and degradation of natural resources. The origin of value added is determined by International Standard Industrial Classification (ISIC), Revision 3 or 4. The data aggregation method has been averaged over the last 10 years and the periodicity is annual.

Gross domestic product (GDP) represents the sum of added value from all producers. The added value is the value of the gross output of producers, less the value of intermediate goods and services consumed in production, before the consumption of fixed capital in production is measured. The United Nations system of national accounts requires that value added be valued either at basic prices (excluding net taxes on products) or at producer prices (including net taxes on products paid by producers, excluding sales or value added tax). Both valuations exclude transportation expenses invoiced separately by the producers. Total GDP is measured at buyer prices. The added value from the industry is usually calculated at basic prices.

Gross Domestic Product is an important financial measure for a country's standard of living. In this case we will use industrial production as a percentage of GDP, that is, how much industry contributes to GDP. The indicator's analysis covers the last 10 years from 2008-2018 and between the Western Balkan countries (Serbia, Montenegro, Albania, Bosnia and Herzegovina, Northern Macedonia) and the 28 countries of the European Union. Fig. 3 shows the progress of these countries over the last decade.

FIGURE 3
Industry (including construction), value added (% of GDP), World Bank national accounts data, and OECD National Accounts data files



As shown above, starting with the analysis of the European Union, we see a steady progress in this time period of around 22%. The highest price was in 2008 at 23,498, due to the global financial crisis that year the rate has since fallen but little. The latest price in 2018 is 21,867. But in general, we can say that there is no uniformity within the EU, as some countries are developing at a different rate than others. Indicatively, in terms of industrial production, the Czech Republic, Ireland and Slovakia have the highest rates of 32.7, 35.4 and 31.3 respectively in 2018, while in the same year the countries of Cyprus, Luxembourg and Malta had the lowest rates of 12.2, 11 and 12 respectively. Consequently, a relative heterogeneity appears. However, the stability of this period remains as regards industrial production as a percentage of GDP.

Continuing the analysis with the countries of the Western Balkans there are also differences among countries. Montenegro is at a low level, where at 17,695 in 2008, we see after that year some fluctuations to reach 15,886 in 2017, which is lower than in the EU. In contrast, Northern Macedonia has seen a steady increase since 2009, reaching 23,558 in 2018. Bosnia and Herzegovina (23,593) has the same percentage, with very little fluctuations since 2008. Albania is the only country that has been on a downward path since 2008 and from 25,161 in 2018 to 21,303. Finally, for Serbia, excluding the sharp decline from 2008 to 2009, due to the recession (27,608 to 24,902), it has since been at high levels at 25,879 (in 2018) higher than the European Union. The above analysis has shown that the Western Balkan countries are not far from the European Union in terms of industrial production, and for them industry is an important part of their economy, accounting for around 23% of GDP. With one exception Montenegro is at a low level. The following two tables show the industry, industrialization and services of the countries as a percentage of GDP. Two time periods are taken into account: 2010 and 2018.

TABLE 3
World Bank national accounts data, and OECD National Accounts data files.

	Industry		Manufacturing		Services	
	% of GDP		**% of GDP**		**% of GDP**	
Country	2010	2018	2010	2018	2010	2018
Austria	26	25	16	17	62,3	62,7
Belgium	21	20	13	13	67,9	68,8
Bulgaria	24	24	12	14	59	59,2
Cyprus	15	12	5	5	71,3	72,6
Czech Republic	33	33	21	23	55,6	55,3
Germany	27	28	20	21	62,2	61,5
Denmark	20	21	11	13	65,4	65,1
Spain	24	22	12	13	65,4	65,9
Estonia	24	25	14	13	60,2	59,9
Finland	26	25	17	15	58,9	59
France	18	17	10	10	70,7	70,3
United Kingdom	18	18	9	9	71,5	70,5
Greece	14	15	7	10	71,6	68,1
Croatia	23	21	12	12	58,3	58
Hungary	25	26	18	19	56,4	54,4
Ireland	23	35	19	31	66,5	57
Italy	22	22	14	15	66,3	66,1
Lithuania	26	26	17	17	60,8	61,1
Luxembourg	11	11	5	5	78,3	79,2
Latvia	21	20	12	10	64,2	63,5
Malta	18	12	11	9	68,7	75
Netherlands	20	18	10	11	68,4	70,3
Poland	29	30	16	18	56,2	56,4
Portugal	20	20	12	12	66,2	65
Romania	38	29	23	20	46,4	57,1
Slovak Republic	32	31	19	20	56,3	55,5
Slovenia	27	29	18	21	58,7	56,3
Sweden	25	23	16	14	61,1	64,8

TABLE 4
World Bank national accounts data, and OECD National Accounts data files

	Industry		Manufacturing		Services	
	% of GDP		**% of GDP**		**% of GDP**	
Country	2010	2018	2010	2018	2010	2018
Albania	25	21	5	6	44	47,9
Bosnia and Herzegovina	22	24	11	13	55,6	55,6
North Macedonia	21	24	10	13	55,1	55,1
Montenegro	17	16	5	4	58,6	59,1
Serbia	25	26	..	..	51,7	51

From the tables above we can extract the following: For the European Union and the Western Balkan countries, services are an important part of their economy. Taking the EU average, services account for close to 63.5% of GDP, 22.79% for industry, and 14.64% for manufacturing. Correspondingly, for the Western Balkan countries the results are as follows: services 53.74%, industry 22.2% and manufacturing 7.2%.

CONCLUSIONS

The purpose of this work was to make a comparative analysis between the 28 EU countries and the Western Balkan countries that it has to do with sustainable development goals focused on the 9th objective. The above results showed us that the Western Balkan countries are not very different from the EU countries in industrial production. The overall industry index as a percentage of GDP has shown that Serbia, Montenegro and Northern Macedonia have outpaced the EU within this 10-year period. However, it is not as representative as there is a relative heterogeneity in the EU, as noted above. Also, by drawing conclusions from the last 2 tables we can conclude that in all countries services are considered an important sector, contributing to almost all countries to more than 50% of GDP. It also seems that EU countries are more industrialized than Western Balkan countries. These countries need to be improved in this area.

Based on the Sustainable Development Index, the conclusions were clearer. EU countries have achieved better rates of achieving the 9th Sustainable Development Goal, that is, we can claim that their industries and their infrastructures are both economically and environmentally sustainable. The Western Balkan countries are far from the EU in this area, but only Serbia can say that it is at a better level than Romania and Bulgaria.

Various policies that countries must adopt to become innovative, have robust infrastructure and create sustainable industries are considered necessary. Galileo and EGNOS

European satellite navigation programs are important for Europe at an international level. Thanks to their high accuracy and reliability, they offer improved positioning and timing information with significant positive impacts on many European services and day-to-day products, from your car's navigation system to cell phones and critical emergency services. These programs are an important innovation.

Also, countries such as Sweden and Estonia are pioneers in innovation. Sweden is innovative at a European level, with high levels of private and public investment in research and development, a high number of patent applications, innovative SMEs and a high share of employment in highly knowledge-intensive activities. In addition, investment in manufacturing is growing faster than the EU average and the energy efficiency of industrial production is very high. Also, the European Strategic Investment Fund helped an Estonian company to produce condensers, that is, energy storage devices 100 times more powerful than standard batteries that can withstand 1 million feedback cycles. Therefore, it would be prudent for the two countries mentioned above to become a model for the rest of the EU and the Western Balkans to become innovative as well.

Finally, because the industry is changing so much nowadays, a new term of Industry 4.0 has been introduced. The idea is to apply high-tech technologies and, in particular, digital transformation. Industry 4.0 focuses specifically on smart factories based on the Internet of Things. It will affect every industrial process from manufacturing to logistics and supply chains. And it will greatly affect the way we create and distribute information. Many different industries can benefit from Industry 4.0. However, it has shown the best results for those sectors: virtual and augmented reality, robotics, energy, special types of goods, standalone or remote-control vehicles. So, all that has been said will help create a more innovative world, sustainable development, with the aim of always ensuring sustainability, both economically, socially and primarily environmentally.

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The Development of a New Energy Vehicle Industry in China and Its Reference to the South and Eastern Europe

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ABSTRACT: As one of the important steps to face with the reduction of oil resources and the increase of the attention of environmental protection, the automobile industry works on the further exploration of various energy-saving technologies in the vehicle development. Research and development, manufacturing and promotion of new energy vehicles are at the aim of improving the global climate and environment and reducing the consumption of non-renewable resources. In China, the public's awareness of sustainable travelling has constantly improved in recent years, and the government continues to introduce preferential policies for new energy vehicles, and thus the new energy vehicle market presents a blowout development trend. Based on the introduction of the development history of new energy vehicles and the development status of new energy vehicles in China, this paper makes an in-depth analysis of the marketing model of new energy automobile industry in China, and integrates the characteristics of new energy vehicle market in south and eastern Europe. On the basis of the experience of new energy vehicle development in China, the possible development path of new energy automobile industry in south and eastern Europe is proposed to further develop and expand the new energy vehicle industry in south and eastern European countries and the Black Sea region.

Keywords: new energy vehicles, development, marketing model.

INTRODUCTION

Nowadays, the concern for sustainable development continues to rise both domestically and internationally. As is known to all, an important way to achieve sustainable development is to achieve energy transformation, which aims at replacing non-renewable energy with renewable energy as the main role in production and consumption mode. Globally, the European Union (EU) is an early actor of energy transformation. Many countries in the south and eastern Europe and the black sea region, as EU member states or potential members, will soon face the problem of energy transformation due to the importance the EU attaches to it. Although China started later than Europe, it has taken a series of national actions in recent years to promote energy transformation, including a big push for the development of New Energy Vehicles (NEVs) industry which has resulted in the achievement of the top market volume around the world presently.

From the development experience at home and abroad, NEVs are an effective means to

achieve green transportation transformation, with significant energy saving and emission reduction effects. For the average EU electricity mix, Battery Electric Vehicles (BEVs) have less than a half of the emissions than Internal Combustion Engine Vehicles (ICEVs) have (Faria, 2012). At present, many developed and developing countries around the world have formulated the medium and long-term development strategic plan of NEVs. It is expected that the NEV market will continue to grow in the next decade and become a new growth point to promote economic development (Zhuoran Liu, 2015).

As for the circumstance in China, a relatively perfect policy system has been established for the development of NEV industry, which plays an important leading role in the market performance of a NEV industry in terms of technology patents, product production and sales, and business models (Suxiu Li, 2016). In European countries, a predictive comparison shows clearly that the electrification of vehicles offers significant possibilities to reduce specific CO_2 emissions in road transport, when supported by adequate policies to decarbonize the electricity generation. Based on the abovementioned studies, this article will further study the characteristics of the NEV market in China and discuss the possibility of mutual reference to the development of a NEV market in Southeast European countries, such as Bulgaria and Greece. Through making a comparison between the characteristics of the markets mentioned, the article proposes the possible development path of a NEV industry in the south and eastern Europe, on which the industry there could achieve faster development and expansion.

DEVELOPMENT STATUS OF CHINA'S ELECTRIC VEHICLE MARKET

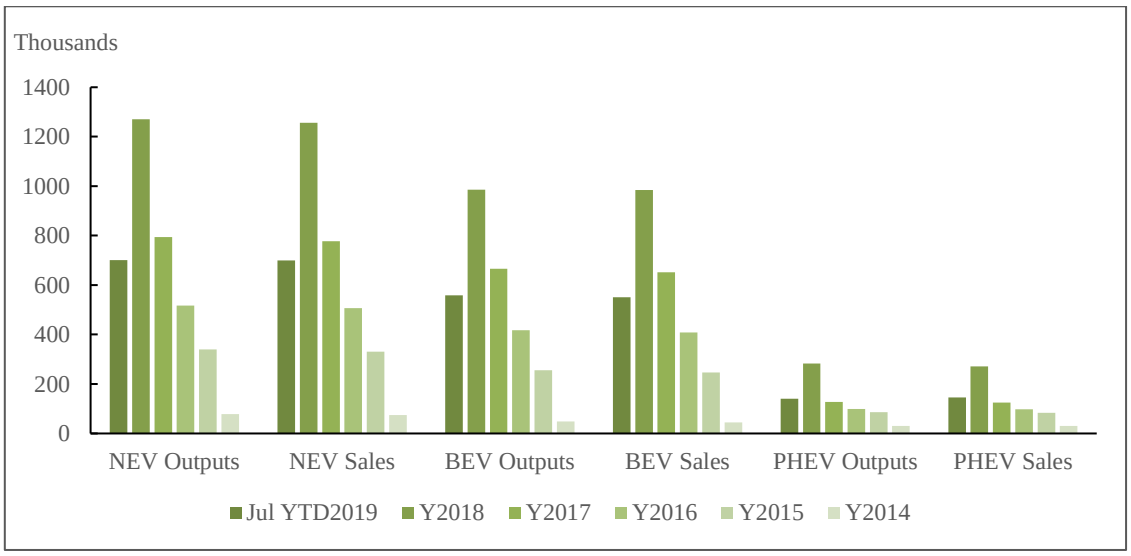
Chinese Market Has Seen a Significant Growth Since 2015

At present, the new generation of scientific and technological revolution is forming a major trend of electric, intelligent and shared transformation of automobiles.

Because of this change, sales of NEVs in China have quadrupled from 331,000 in 2015 to 1.25 million in 2018, accounting for 4.4 percent of car sales. At the same time, China's NEVs have entered dozens of countries around the world, and nearly a hundred foreign parts and technology start-ups have also been integrated into China's NEVs industry. Cooperation, joint venture, integration and shared development have formed an international industrial chain of China's NEVs. With the joint support of various policies and the full cooperation of all parties, China's NEV sales and holdings rank first in the world with more than 53 percent of NEV sales around the world by the end of 2018. The production and sales of NEVs has reached 701,000 and 699,000 respectively till July 2019, with year-on-year growth of 39.1 percent and 40.9 percent. BEVs and Plug-in Hybrid Electric Vehicle (PHEV) mainly form the

NEV market, and BEVs are much preferred by customers in China. Domestic NEVs are gradually developing from the public to the private sector. At present, new energy passenger vehicles are in a relatively dominant position.

FIGURE 1
China's Production and Sales of NEVs in 2014-Jul 2019



Source: China Association of Automobile Manufactures.

A Policy-driven Market Is Formed in China

In 2017, The Ministry of Industry and Information Technology, the National Development and Reform Commission and the Ministry of Science and Technology have issued the Medium and Long-term Development Plan for the Automobile Industry, which states that by 2020, the annual production and sales of NEVs will reach 2 million, and by 2025, the NEVs will account for more than 20% of the automobile production and sales. To achieve this goal, the government has promoted a series of powerful policies.

Aiming at stimulating the consumption, policies concerned with those who purchase NEVs are implemented in 8 top-tier cities with license plate limitation. Also, electric vehicles are unlimited travelling on road, while traditional ICEVs are limited in over 20 cities in order to control traffic flow. In such conditions, NEVs seems to have priority on road. Moreover, improved loan quota, tax-free incentives, subsidies and other special treatment for NEVs have attracted the attention of many consumers.

In terms of vehicle manufactures, the government has implemented a parallel management method of average fuel consumption and NEV integral in passenger vehicle enterprises with over 30,000 vehicles production. On the one hand, the negative integral will be accumulated as ICE production grows and vehicle emission increases. On the other hand,

positive integral can be obtained from the production of EVs. At the end of the year, the enterprises with excessive negative points or with insufficient EV integral proportion cannot reproduce cars in the following year. At the same time, the Limits and Measurement Methods for Emissions from Light-Duty Vehicles and Heavy-Duty Diesel Vehicles (CHINA 6) has been issued to limit the emission of ICEs. As the result, the cost of upgrading ICEs is increasing which promotes the sale of NEVs in a disguised way.

Difficulties to Be Solved in the Development

When focusing on the difficulties the industry will face in the future development, a vital problem is the production of battery. The situation of China's power battery industry shows a trend of increasing enterprise concentration and two-tier differentiation, leading to unbalanced development of local enterprises. At present, there are not many reliable battery suppliers for automobile enterprises, and thus many enterprises can only rely on few battery suppliers. This market pattern cannot guarantee the balance of the industry chain and might strain the resources during the development process.

At the same time, the industry is also facing the problem of power battery recycling. Since 2014, the installation of power batteries has entered an explosive growth period, and the recovery of power batteries has gradually been put on the agenda. Generally, batteries of household passenger cars and electric bus will be decommissioned in about 5 years, and those of taxis and logistics vehicles power will be decommissioned in about 2 years. According to this statement, China's new energy automotive power battery will enter a large-scale scrapping stage in the recent years and the industry has to take action immediately to properly recycle batteries.

In addition, China put forward the development goal of NEVs for the first time in 2009. In recent ten years, with the rapid expansion of the production and sales scale of NEVs, the long-term implementation of subsidies has led many manufacturers to launch NEVs with subsidies as the core, resulting in the weak competitiveness of some brands. According to the newly adjusted subsidy policy for NEVs, the subsidy for BEVs will be reduced from 6 gears in 2018 to 3 gears in 2019, and BEVs with a range of less than 250 kilometers will no longer receive the subsidy, while the subsidy for purchasing PHEVs will be reduced from 22,000 yuan to 10,000 yuan.

At the national level, forcing automobile enterprises to improve product competitiveness is conducive to the concentration of resources to leading manufacturers in the industry, and promoting the transformation of NEV industry from policy-driven to market-driven.

DEVELOPMENT STATUS OF ELECTRIC VEHICLE MARKETS IN SOUTHEAST EUROPE AND THE BLACK SEA REGION

European Electric Vehicle Market Status

In 1990, the European association for urban EVs was established to help cities conduct feasibility studies, install necessary equipment and guide their operations. By the end of 1995, the first batch of electric cars in Europe had been mass-produced. Between 1996 and 2000, the number of electric cars in Europe increased from 5,890 to 16,255, with France, Switzerland and Germany leading the way. Since the beginning of the 21st century, the EV industry in Europe has developed rapidly. By the end of 2014, the EV ownership in all EU countries has increased significantly. According to the data from the National Automobile Manufactures Association, about 126 thousand NEVs were registered in the first quarter of 2019 in Europe, which increased by 41.2% compared to 2018.

In terms of promoting the industrialization of EVs, the EU, as a consortium of European countries, cannot formulate uniform laws of the EU and directly formulate specific and detailed industrial policies for all countries. Instead, it proposes common goals and guidance, and supports EU countries in specific industrial fields. The EU has asked automakers to achieve 30% reduction of their average CO2 emissions by 2021. By 2025, the EU will require 15% of all new cars sold to be electric or plug-in hybrid vehicles. By 2030, the proportion will reach 30%. Meanwhile, governments across Europe have developed a number of policies and measures to promote the development and consumption of EVs and accelerate infrastructure development.

Market Status of Electric Vehicles in Southeast Europe and the Black Sea Region (taking Bulgaria and Greece as examples)

According to the data released by Eurostat on May 7 this year, 262 million cars were registered in EU member states in 2017, of which about 2 million (0.8 percent) were electric or hybrid vehicles. The number of electric and hybrid cars registered across the EU has grown steadily in recent years. The number of hybrid cars in 2017 (1.5 million) was almost seven times higher than in 2013 (200,000). In Bulgaria and Greece, NEVs seem to be well accepted by local people.

Bulgaria

According to the European Alternative Fuels Observatory, the amount of passenger vehicles in Bulgaria has reached 2.9 million which includes 204 thousand of PHEVs and 429 thousand of BEVs.

20 Zhengzhou Yutong pure electric passenger cars from China were put into use last December in Sofia, which not only improved the public transportation quality, but also gave local residents zero emissions of new travel experience. At the same time, the team also delivered its V+ vehicle networking system to the customer, marking the first commercial vehicle networking project in the EU in China for commercial use, and Yutong has been equipped with the overall solution layout ability of high-end market since then. After being put into operation, this batch of vehicles not only fulfilled the commitment of the Bulgarian government to improve the urban environment, but also took a historic step towards the electrification of public transport in Bulgaria, contributing to its development of energy conservation, emission reduction and green public transport. Today, two electric car companies are based in Bulgaria. The first is Great Wall, which mainly produces SUVs locally. The second is BYD, assembling electric cars and buses, which has a joint venture with a Bulgarian energy company called Bulmineral.

Greece

Up to the first half of 2019, the amount of passenger vehicles in Greece is 507.7 thousand, according to the European Alternative Fuels Observatory, in which PHEVs account for 412 thousand and 313 thousand for BEVs.

Currently, Greece has very few public charging points for electric cars, only 115 charging points in the country, and only six of them have quick charging facilities. One of the main reasons for the slow development of the Greek EV market is the serious shortage of supporting facilities for EVs. According to the latest figures, only 231 electric and hybrid cars were sold in Greece in the first nine months of 2018, the smallest number among the 22 countries studied. While the government has offered incentives to develop electric cars, such as an exemption from annual road taxes, there is still no subsidy for individuals or companies to buy electric cars, and no lower value-added tax for buyers of electric cars.

Difficulties in the Development of Electric Vehicle Industry in Southeast Europe and the Black Sea Region

Although pure EVs have achieved certain development in Europe, the commercialization process is relatively slow due to three main problems: public acceptability of pure electric vehicles, charging facilities, lack of financial support.

Public Acceptability of Pure Electric Vehicles

In countries with a per capita GDP below €18,000, the market share for NEVs is almost 0%. Half of the 28 EU member states have a market share of 0.75% or less. By contrast, market share with over 1.8 percent only occurs in countries with a per capita GDP of more than 35,000 euros. It can be seen that the acceptance of NEVs is generally not high, and has a close relationship with the country's overall economic strength.

Charging Facilities

As it was noted by Gao et al.(2015), national authorities actively co-operate with vehicle and utility services companies as well as with other infrastructure providers for the development of the national standards for charging stations and their networks. The standards and technical norms have to be developed so as to secure electric vehicle access to power grids for recharging.

76% of charging facilities are concentrated in these four countries, with nearly 30% in the Netherlands (32,875), 22% in Germany (25,241), 14% in France (16,311) and 12% in the UK (14,256). For these four countries, the most important problem is the matching of charging equipment, with the number of private and public sectors. To achieve a higher average penetration rate in Europe, at least 2 million charging facilities will be needed by 2025, requiring a 20-fold increase in less than seven years, which eventually leads to a greater unbalanced distribution.

Lack of Financial Support

The government's support is insufficient for charging infrastructure, such as EVs or charging piles. Only a third of EU member states have provided subsidies for charging infrastructure. This requires not only national support, but also real operator investment.

Financial initiatives serve as a core driving force behind the sales of eco-friendly cars. Namely for this reason, financial initiatives are employed as a main measure in all large electric vehicle markets (Yang et al., 2016). According to Mock and Yang (2014), the analysis of the links between the level of main measures and the dynamics of electric vehicle markets proposes that these two factors are interrelated. Norway and the Netherlands are the obvious examples of how high fiscal initiatives contribute to generation of the sufficient gross value for consumers, which, in turn, determines higher electric vehicle market growth rates. Nevertheless, the results of some studies show that fiscal initiative is not the only determinant of the growth in the number of electric vehicle users. For example, despite a relatively high

level of fiscal incentives, the current electric vehicle market penetration in the UK was found to be low in comparison to the market penetration in the leading countries (Mock &Yang, 2014).

For the southeast Europe and the black sea region, new energy market has yet to be further developed.

DISCUSSION ON THE MUTUAL LEARNING SIGNIFICANCE OF THE TWO REGIONAL MARKETS

Similarities and Differences between the Two Markets

From the market performance, it can be seen that the future market of NEVs has a broad prospect in Europe and China, especially for pure electric vehicles. Due to subsidy policies, both sales of NEVs show an obvious upward trend and the growth rate has been rising steadily.

It can be stated that consideration of a character and purpose of a promotion measure allows to identify the appropriate administrative level in which the decision on implementation and monitoring of the measure will be made. Nevertheless, different countries may follow different practices. For instance, for achievement of the defined aims, China introduces the essential fiscal subsidies at the national and sub-national levels (ICCT, 2017). Norway implements the main promotion measures at the national and regional levels (Hall et al., 2017). Mersky et al.(2016) notes that although many European countries implement promotion measures at different administrative levels ranging from nation to regional or local, Norway is unique in this regard as it implements the countrywide policy which covers all the main categories of promotion benefits: infrastructure usage pricing benefits, infrastructure access benefits, point of sale pricing benefits, parking access and charging access benefits. The only category of promotion benefits not covered at the national level in Norway is fuel price benefits. Fuel price benefits are covered at the regional level.

At the European government level, CO_2 emission of vehicles is basically linked to automobile enterprises. However, there is no link between CO_2 emission and charging facilities of NEVs. Moreover, automobile enterprises in Europe do not cover charging piles fully, so consumers' acceptance is not reached the level as expected. As for the batteries, it is difficult for European power battery companies to form a competitive force in the short term, which also restricts the rapid expansion of NEV industry.

Although China and Europe have the similar policies on emissions and fuel consumption, China seems to proceed faster in investment and infrastructure construction.

Discussion on Future Development Path

In China, the new energy passenger vehicle market has already entered the rapid growth stage from the introductory period. The driving force of market growth has shifted from policy to market, and private consumers have become the main consumers of NEVs. According to a Chinese association, 560,000 new energy passenger vehicles were sold in 2017, including 450,000 pure electric passenger vehicles and 110,000 plug-in hybrid passenger vehicles. The proportion of private buyers of NEVs has exceeded 50%. Contrary to Chinese market, NEVs are mainly used for public transport such as bus systems in European market. In this way, China's electric vehicle public market can learn from the development model of Europe and vice versa.

Enterprises also need to address battery safety, charging time, price. This can easily induce enterprises to chase high-energy batteries, leading to excessive battery assembly, which may cause fires in cars. For all electric cars, the most important technology is producing battery. However, some relevant departments cannot grasp the main contradiction, taking mileage as the main aspect of the contradiction and safety as the secondary aspect, which eventually results in deviation of development route, policy, technical problems and other aspects.

Although new energy vehicles today are faced with problems such as subsidy retreat, technology improvement and business model, the future market is still full of potential with the help of governments, industries and enterprises.

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South and Eastern Europe Developing Tools

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ABSTRACT: Following the progress of a really large-scale program such as "Sustainable Development Goals 2030" can be challenging and, without a doubt needs scientific examination. Finding ways to improve it is an even bigger challenge but, at the same time, ultimately the goal. The present paper's purpose is to analyze Development Indicators that help monitor all 17 Sustainable Development Goals from European Countries, outside of the Eastern & South region, and compare them with the Development Indicators of the countries inside the Eastern & South region. A question to be answered is if things are getting better since the big economical crisis emerged in 2008. Using proper statistical visualization and inference, the "strengths and the weaknesses" of East & South Europe become clear, correlations between the Indicators as well as between the Countries are examined and statistical models are used to forecast the progress of the "Sustainable Development Goals 2030" program. After all this analysis, in respect to each one of the 17 "Sustainable Development Goals" philosophies, we propose practical ways for further improvements that can be implemented presently and maintained in the long run.

Keywords: dialogic education, accounting higher education, sustainable development.

INTRODUCTION

Four years after the adoption of the SDGs and the Paris Agreement, no country is on track to meeting all the goals. Countries of the East and South Europe in particular, although their massive financial improvements in the last two decades, still face various challenges on social, human and environmental sectors.

In this paper, a dataset from various sources (World Bank, WHO, ILO, others) is analyzed using the statistical programming language "R" (all calculations, tables and figures, if not referenced, are calculated / visualized using "R") to compare East and South Europe's performance with the Rest of EU. East and South Europe is defined as the following 15 countries: Albania, Armenia, Bosnia and Herzegovina, Bulgaria, Greece, Hungary, Montenegro, North Macedonia, Poland, Romania, Russia, Serbia, Slovak Republic, Turkey, Ukraine. Part of the analysis is the examination of GDP per capita (PPP), Spillover effect and Population on whether they affect a country's performance by fitting linear models. Instead of only comparing East and South Europe to the Western and Central Europe, manageable indices are examined on correlations to other SDGs in order to make clear where the focus is

urgent. Finally, development tools are presented for further progression and sustainable implementation.

EAST AND SOUTH EUROPE VS REST EU COUNTRIES

Global Index Score and Spillover

Every SDG is constructed over a number of indices. Every index is Normalized on a 0-100 scale (0=worse, 100=best) using the min-max method. The average of the Normalized Indices of an SDG compute the SDG Score. The Global Index Score for a country is formed as the (unweighted)-average of all 17 SDG Scores. As referred in the Sustainable Development Report 2019, the Global Index Score is interpreted as **"a country's average percentage of the way to the best possible outcome across the 17 SDGs"**.

The Spillover Score is calculated according to **a.** Environmental Spillovers **b.** Spillovers related to the economy, finance and governance **c.** Security Spillovers. In a highly interdependent world, countries' action can have positive or negative effects on other countries' ability to achieve the SDGs so Spillover Score must always be examined. In this analysis, these scores are also Normalized with the same method (min-max, 0=worse, 100=best)

FIGURE 1
Boxplots of Global Index Score and Spillover Score for East and South European Countries and the Rest of EU

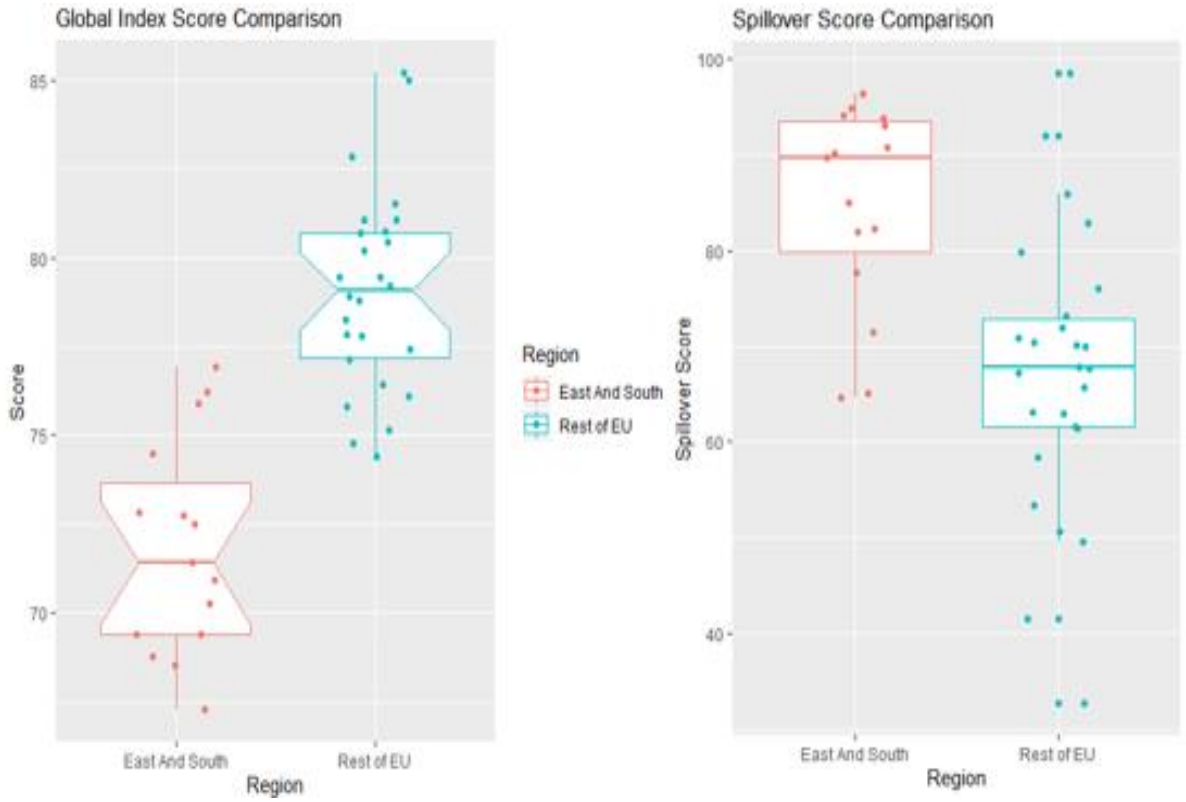


TABLE 1
Average Scores and Normality tests for each region

	East And South EU	Rest of EU
Average Global Index Score	71.8	79.05
Global Index Score Shapiro-Wilk test	p-value= 0.50	p-value=0.58
Average Spillover Score	84.6	67.12
Spillover Score Shapiro-Wilk test	p-value=0.03	p-value=0.86

First we test each group using a Shapiro-Wilk test (Normality Test) which does not reject the hypothesis that the samples follow a Normal Distribution (Table 1), thus we can perform a Welch Two Sample t-test. The test confirms that the 7.21 difference in average score between the two regions (Table1) is statistically significant (p-value lower than 1%). The Eastern and South countries are clearly in a slower progression towards the SDGs, a call for us to make improvements.

On the contrary, the East and South Countries are far ahead in the Spillover Score. Shapiro-Wilk test rejects Normality in a 95% statistical significance for the first group (Table 1), so we use a Kruskal-Wallis test (non-parametric ANOVA) to examine whether there is a difference between the Regions. The test clearly shows that the median values are significantly different (p-value < 1), stating that we are doing a better job on the Spillover Scores.

Construction of Linear Models

Statistical Models are not always constructed solely for predictions, but to explain phenomena as well. In our dataset. there are 3 possible explanatory variables to be analyzed: **i)** GDP per capita (PPP), **ii)** Population and **iii)** Spillover Score. And one response variable: the Global Index Score (GIS)

As a first step, knowledge on whether a correlation between the response variable and the explanatory variables exists is necessary, so as to proceed in three Pearson's Correlation tests.

TABLE 2
Correlation between GIS and 3 Predictors

Pearson's Correlation Test	Global Index Score
GDP	0.57 (p-value<0.01)
Spillover	-0.80 (p-value<0.01)
Population	-0.09 (p-value=0.56)

Population is insignificant and gets excluded from the analysis.

Two linear models are to be constructed. The first is for the East and South Europe and the second for the Rest of EU. Based on the Akaike Information Criterion (AIC) the best models are:

1) East and South EU: GIS ~ c +β*GDP + e, e ~ Normal
2) Rest of EU: GIS ~ c2 + β2*GDP+β3*Spillover+β4*GDP*Spillover + e, e ~ Normal

The first model uses only one explanatory variable (GDP) with parameter β, a positive value. Explaining that the Global Index Score of an Eastern and South European country is positively affected by its GDP increase. Specifically, a 4600 increase in GDP per capita is expected to increase a country's Global Score by 1.

The second model is an interaction model between the variables GDP and Spillover. β2 and β3 are both negative values, while the interaction term β4 is a positive value. This information explains that, for countries in the "Rest of EU" region, a good Global Index Score is achieved when both GDP and Spillover Score are increased. If one of the two variables is underdeveloped (for example a great GDP but a very low Spillover Score, or the opposite) then the Global Index Score will be worse than a country's score where both values are on a medium scale.

It is critical to note that these models stand as of right now, and even if the exact values of GDP and Spillover were known for 2030, no predictions would be meaningful or trustworthy.

Comparison Between Every SDG

After testing only the Global Index Score, it is useful to check whether there are differences between the two Regions for each of the 17 Sustainable Development Goals independently.

A similar analysis to the one in chapter 2.1 is conducted, with the use of Welch Two Sample t-tests and Kruskal-Wallis tests (wherever the normality assumptions are not met).

The results of these tests are that in a 99% statistical significance the difference between East and South Europe and the Rest EU is **insignificant** for the underneath Goals: Goal 1: No poverty, Goal 2: Zero Hunger, Goal 7: Affordable and Clean Energy, Goal 13: Climate Action, Goal 14: Life Below Water, Goal 15: Life on Land and Goal 17: Partnership for the Goals

The Rest of EU has a **significantly** better progression in comparison to East and South Europe, for 9 out of 10 Goals (Table 3) except for Goal 12: Responsible Consumption and Production. The significant differences are shown below:

TABLE 3
Statistically significant differences between the two Regions

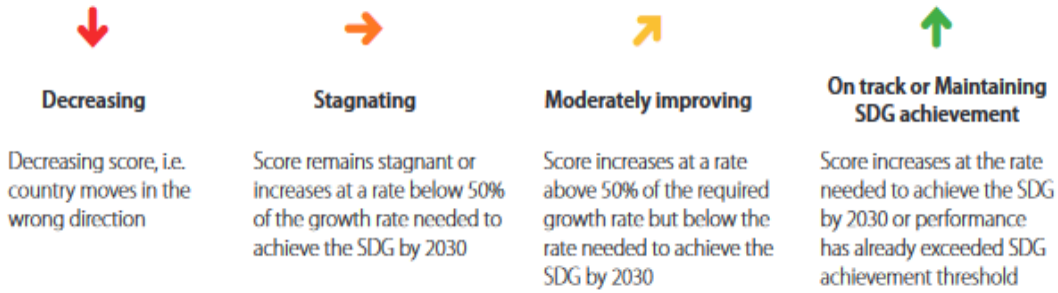
Goal	East And South	Rest of EU
SDG 3: Good Health and well being	82.0	92.5
SDG 4: Quality Education	90.5	95.4
SDG 5: Gender Equality	59.4	77.8
SDG 6: Clean Water and Sanitation	79.6	88.0
SDG 8: Decent Work and Economic Growth	71.9	81.2
SDG 9: Industry, Innovation, and Infrastructure	40.1	67.2
SDG 10: Reduce Inequalities	61.7	84.3
SDG 11: Sustainable Cities and Communities	76.6	86.6
SDG 12: Responsible Consumption and Production	73.2	53.7
SDG 16: Peace, Justice and Strong Institutions	71.1	82.8

Some gaps are really big, for example SDG 9: Industry, Innovation, and Infrastructure, is a huge challenge. Also SDGs about inequalities (5 and 10) is a metric for which we certainly are not proud of.

A great challenge is to upgrade all those Goals while sustaining (and improving) Goal 12's score. Obviously, Europe's existing developing tools are not sufficient enough for such a purpose, thus critical changes are necessary.

In the "Sustainable Development Report 2019", a Trend Analysis was conducted using historic data. Reliable projections on whether each Goal will be achieved by 2030 have been made for every country, hypothesizing that the 2010-2015 growth rate remains constant, resulting in the following four Trend Marks (Figure 2).

FIGURE 2
Trend Mark Projections



Source: Sustainable Development Report 2019. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network.

The comparison between East and South Europe with the Rest of EU for these Trend Marks is given bellow:

TABLE 4
Trend Projections for East and South European Countries and the Rest of EU

	East And South	Rest of EU	Sum
Decreasing	10	9	19
Stagnating	45	54	99
Moderately Improving	110	182	292
On track	43	150	193
Sum	208	395	

Clearly the difference is dramatic on the number of SDGs that are "On track" between the two Regions. A Chi-Squared test is applied, and the results show significant difference between the two Regions (p-value<0.01). Most Goals are on the "Moderately Improving" growth category, which calls on a focus to upgrade them to "On track" instead of taking steps back to "Stagnating"

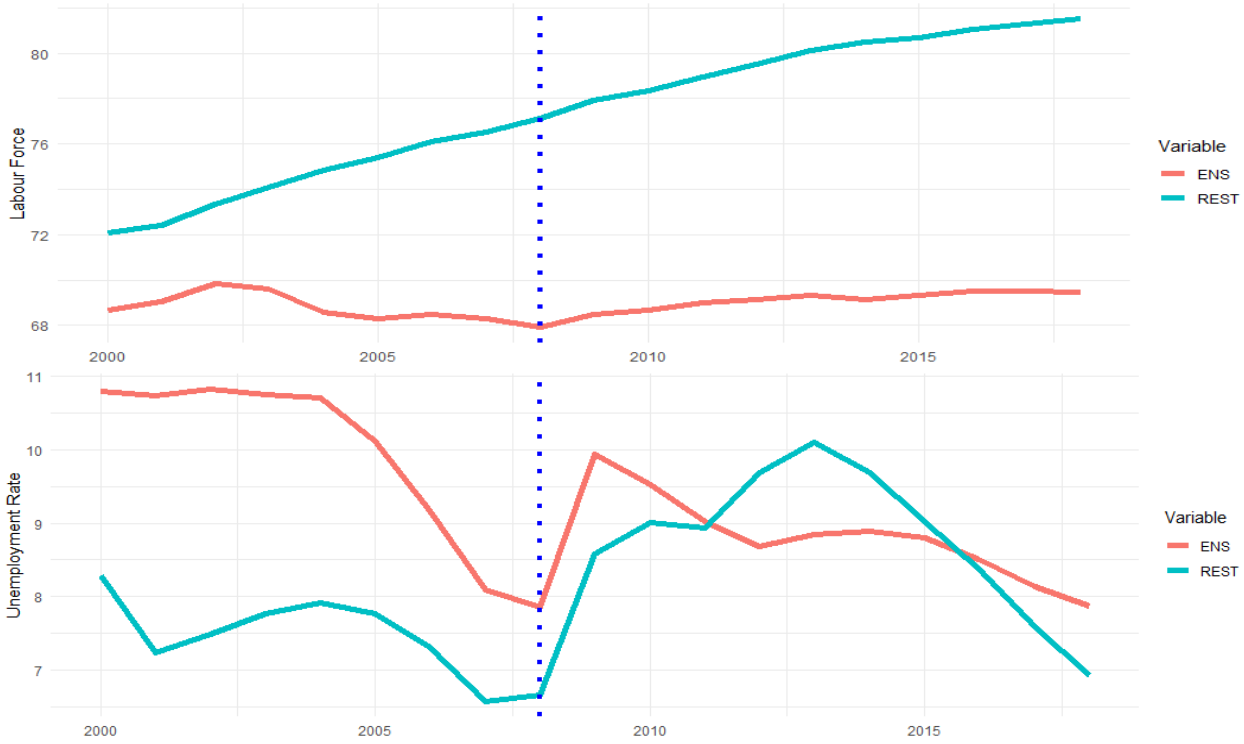
INDICES AND CRISIS

Economic Crisis

Indices for which a sufficient time series is available, are examined on whether they were affected by 2008's economic crisis and are presented below[1] (Figure 3) (non-normalized and calculated using every country's population as weights):

[1] Non-normalized and calculated using every country's population as weights.

FIGURE 3
Time Series for Labour Force (Female to Male Participation Rate) and Unemployment Rate (vertical dotted lines labels 2008)



Ratio of female to male labour force participation rate was positively affected by 2008 crisis. From 69.86% in 2002, a decline started until 2008 where it was at the levels of 67.9%. After this, it started increasing and it is know back at over 69%. Probably, many families would rely on the model were the male's income alone, is sufficient so that the female's main activity is housework. This changed when the need for a larger income became urgent.

Unemployment rate had a sudden increase in 2009 (from 7.85% in 2008 to 9.94%) but started decreasing since and is now on the same levels as in 2008.

Research and development expenditure (% GDP), was at its lowest in 2006, probably a factor that resulted to the financial fall. After 2008 there is a clear linear trend upwards.

Gini Coefficient adjusted for top income, calculated for Greece, Poland, Slovak Republic, Turkey and Hungary was at its lowest in 2009 but unfortunately, started increasing since.

All Indices that were affected in Crisis coverage to their before Crisis values.

Manageable Indices to Focus

Some Goals are more "man manageable" than others. For example SDG 4: Quality Education, is easier to adjust compared to SDG 3: Good Health and Well Being. Finding

which Indices affect positively the rest of the SDGs is crucial.

Instead of a simple Pearson's correlation, partial correlation is used. Partial correlation uses a "controlling variable". The variable's role is to eliminate the correlation it has to the other variables, thus pseudo-correlations are not calculated. In our case, the Global Index Score is considered the controlling variable when computing the partial correlation of an index with all SDGs. Keeping in mind that only one Index is tested each time, partial correlations at around 35% (and above) are considered sufficient.

TABLE 5
Man-manageable Indices that affect other SDGs positively

SDG	Index	SDGs affected positively
4: Quality Education	Lower secondary completion rate (%)	SDG 1: No poverty is positively affected
9: Industry, Innovation and Infrastructure	Quality of Trade and Transport Infrastructure	SDGs 3, 6, 8 are affected. SDGs 3 & 6 are health and environment related, 8 is about Economic Growth
9: Industry, Innovation and Infrastructure	Average Score of top 3 Universities	SDGs 6, 8 & 11 are affected. SDG 11 is about Sustainable Cities
9: Industry, Innovation and Infrastructure	Number of scientific and technical journal articles (per 1,000 population)	SDGs 2, 3, 6 & 16 are affected. SDG 2 is Zero Hunger & SDG 16 is Peace, Justice and Strong Institutions
11: Sustainable Cities and Communities	Satisfaction with Public Transport	SDGs 6 & 15 are affected. SDG 6 is Clean Water and Sanitation, SDG 15 is Life on Land
12: Responsible Production and Consumption	Imported SO2 emissions (kg/capita)	SDG 8 is affected positively.
12: Responsible Production and Consumption	Net imported emissions of reactive nitrogen (kg/capita)	SDGs 13 & 15 are affected positively. SDG 13 is Climate Action

DEVELOPMENT

Based on the previous chapter, there are 3 main pillars to focus on. **1.** Education and Scientific Research **2.** Infrastructure **3.** Pollution

Three Indices consider Education and Scientific Research: **a.** Lower secondary completion rate **b.** Average Score of top 3 Universities **c.** Number of scientific and technical journal articles. Two Indices consider Infrastructure: **a.** Quality of Trade and Transport Infrastructure **b.** Satisfaction with Public Transport. And Two Indices consider Pollution: **a.** Imported SO2 emissions **b.** Net imported emissions of reactive nitrogen.

Our approach is improving these three pillars, while maintaining sustainability, with a priority on keeping SDG 12 growing.

Obviously, improving education and scientific research is in need of a systemic approach, where income gaps, gender, or any ethnic groups are not a factor in a person's

progress. Public education needs enhancement, rather than aborting them and investing only on private schools. Private schools and universities on the other hand, should embody scholarship programs to encourage lower income students. The technocrat approach should not be the only focus and a drive for teaching real world problems and global warnings (such as Climate Change) must be implemented interactively since early education.

Investments on transportation infrastructures are necessary in modern society, and while the funds needed for these investments are huge, it is proven to depreciate in the long run. Green transportation is really underdeveloped in East and South Europe. Considering Western Europe's infrastructure models requires massive changes in the current public and private transportation scene.

Lastly, according to ECA's report "Air pollution: Our health still insufficiently protected", three recommendations are suggested directly on decreasing pollution. **1.** Upgrade the AAQ (Ambient Air Quality) directive **2.** Show priority to pollution issues into EU policies **3.** Improve public awareness and information.

CONCLUSIONS

Achieving the Sustainable Development Goals by 2030 is at 71.8% progression for East and South Europe, indicating a significant need for improvement compared to Western EU. On the contrary, we are in a better position as far as Spillover Scores (84.6%), thus the Western EU has negative impact on other countries progression on the SDGs.

Regression Analysis had interesting results that conclude on: **1.** East and South EU does not rely on Spillover effects to achieve the 17 goals neither is something that affects them negatively. **2.** The Rest of EU has a problem where the high GDP countries score low on Spillover Scores. The countries that achieve a balance between the two, tend to have a higher Global Index Score. What is to keep in mind is that East and South Europeans, should not fall for the same mistake of developing our economy based on negative Spillover effects. Sustainability is key for a long-term progress in the SDGs.

It is not a surprise that, looking at each SDG, East and South Europe has a better overall score on SDG 12: Responsible Production and Consumption, still its unfortunate that it is the only Goal we Score best.

Based on current projections, most Goals will not reach completion by 2030, but most of them will be remotely close on doing so. Computing four Indices that where affected by 2008 financial crisis, long econometric cycles are observed indicating that we are returned on the "before crisis" levels.

Finally, the development must focus on three big pillars: **1.** Education, **2.** Infrastructure, **3**. Pollution. We believe that these three pillars are naturally interlinked, with Education prioritized as it is the base for a better future.

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Poverty and Income Inequality in South and Eastern European Countries

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ABSTRACT: One of the main objectives of joining the EU was to reduce the economic gaps between southern and eastern European countries towards the countries of Western Europe. The paper is focused on how Strategy Europe 2020 is proposing to reduce the number of people that suffer or risk suffering from poverty and social exclusion by at least 20 million. There is a big discrepancy between levels of living in Europe, so the main Sustainable Development Goal which we are considering is "No poverty", stressing the fact that there are also big differences between well-developed countries of the European Union. In the paper, we propose the analysis of poverty rate effects over the countries from South and Eastern Europe in comparison with Central and West Europe. The indicators used in the empirical study are GDP, unemployment rate, poverty rate, income, consumption rate.

Keywords: consumption rate, gross domestic product, income strategy, poverty rate, unemployment rate.

INTRODUCTION

This paper chose to work with data from countries that belong to the European Union. The data will be used to represent the phenomenon of poverty over a certain time frame. This paper discusses this theme for it is one of the most urgent issues the population is currently facing. Experts from different fields have attempted to define this phenomenon, in order to determine the causes and to find possible solutions.

The main objective of this paper is to find out if there are significant differences between poverty rates in the EU countries by identifying the influencing factors of the poverty phenomenon. Another goal of this research is to analyze the variables that are potentially linked to poverty. The variables used in this research are: GDP per capita, unemployment rate, income and consumption. This study distinguishes 4 groups in the EU countries and will analyze the poverty rate discrepancies, furthermore continuing with the analysis of the variables and the influences they have on the countries of EU. For reaching these objectives the paper is structured as follows: firstly, the theoretic effects of poverty will be analyzed in the form of a Literature review. The methods this study used are outlined in Data & Research Methodology. The Empirical study discusses and interprets the data conclusion.

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LITERATURE REVIEW

Europe has a plan in order to diminish poverty. They come up with The Europe 2020 Strategy, which is a ten-year program (2010 - 2020) whereby the European Union aims to create conditions for economic growth smart, sustainable and inclusive. The strategy was developed and adopted within the European Council on June 17, 2010, amid a crisis deep economic and intense challenges of the long term, such as globalization, pressure on the use of resources and aging of the population. Europe 2020 considers the particularities of each Member State, while pursuing a coherent program of reforms, with the general aim of increasing Europe's competitiveness, based on the strengths of the EU - single market, common currency, common policies.

A research has been published by Eurostat on who poverty and social exclusion is affecting the most in the countries that are part of the European Union, another research is analyzing the relationship between GDP, income and consumption for 79 countries in a time range of 20 years (1980-2010). Apart from these researches, this paper is proposing to analyze the variables that are influencing poverty and to get a better understanding of how it's influenced by market movement.

Poverty rate is the proportion of the population whose consumption (or income) is below the estimated minimum level in order to secure the necessities in life. This measure quantifies the proportion of the population that cannot afford to buy a basket of goods. When the analysis unit is a natural person, the poverty rate is also called the poverty index, because it is the ratio of the number of the poor to the total population (Lelkes, O., Zólyomi, E., 2008).

Consumption is the use by each agent and economic subject of income or part of it for the purchase of goods necessary to meet its basic needs. It is made up of all the material goods, services and information purchased by private households and institutions that are not aimed at obtaining profits and is structured into three main groups: consumption of immediate (current) goods, consumption of durable goods and services & information (Deaton, A., 1992).

Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders over a specific time period. GDP includes all private and public consumption, government outlays, investments, private inventories, paid-in construction costs and the foreign balance of trade (exports are added, imports are subtracted). GDP is seen as a broad measurement of a nation's overall economic activity – the godfather of the indicator world (Coyle, D. 2015).

The unemployment rate is the share of the labor force that is unemployed, expressed as a percentage. It is a lagging indicator, meaning that it generally rises or falls in the wake of changing economic conditions, rather than anticipating them. When the economy is in poor shape and jobs are scarce, the unemployment rate can be expected to rise. When the economy is growing at a healthy rate and jobs are relatively plentiful, it can be expected to fall (Orlandi, F., 2012).

Income represents an amount or a primitive value received from supplies of goods, labor and services (Galor, O., Zeira, J., 1993).

DATA & RESEARCH METHODOLOGY

In order to answer the main question, this research will use several dependent variables that are closely related to the topic at hand (i.e. poverty rate, GDP, unemployment rate, consumption, income). The data from the year 2017 will be analyzed.

The main statistical methods used for reaching the proposed objectives are: principal component analysis and econometric modelling.

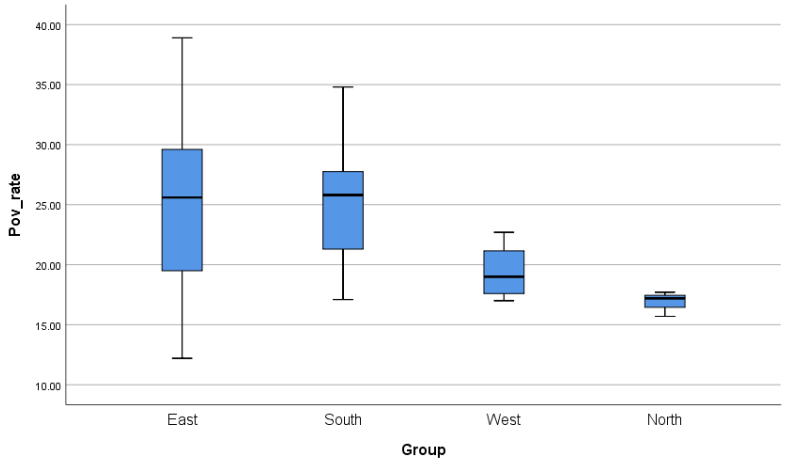
The identification of regional disparities is conducted by applying the methods of multivariate statistical analysis, the analysis of principal components. This descriptive method of multidimensional data analysis highlights the correlations among variables and the resemblances, respectively the differences among statistical units (Escofier, B., Pages, J., 1998). The advantage of this method is the synthetic graphical representation in a system of factorial axes of statistical units and statistical variables.

The factorial axes are linear combinations of statistical variables. To each factorial axis a part of the information contained in the initial data table is associated, also named explained variance (Bénzecri, 1992). The factorial axes are classified in a decreasing order according to their discriminatory power: the first factorial axis explains most of the total variance, highlighting thus the greatest differences among the statistical units. Therefore, the interpretation of results will be conducted for a reduced number of factorial axes (Everitt, Dunn, 2001).

The variables used are expressed as follows:

GDP	Percentage (%)
Unemployment rate	Percentage (%) from total labor force
Consumption	Percentage (%) from GDP
Poverty rate	Percentage (%)
Income	Percentage (%) at current price per head of population

FIGURE 1
Boxplot representation of the groups of EU countries for poverty rate (%) in 2017



Source: Own processing in SPSS.

EMPIRICAL STUDY

This paper divides the empirical study in two parts. First part consists in analyzing the descriptive statistics for the indicators: poverty rate, GDP, unemployment rate, consumption and income for year 2017. In the second part we estimate the econometric models for poverty rate considering the dependent variable income, the results are based on from the descriptive statistics.

Disparities of Poverty Rate between the EU Countries

In order to make the discrepancies between EU countries more observable, we split the countries in categories by the regions they belong. To highlight the poverty rate differences, we grouped the European countries into 4 groups, having a geographical criterion:

East: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia

South: Croatia, Cyprus, Greece, Italy, Malta, Portugal, Slovenia, Spain

West: Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, United Kingdom

North: Denmark, Finland, Sweden

The differences between the four country groups are highlighted in the box plot diagram. Figure 1 shows that the countries of southern Europe and eastern Europe are characterized by the highest rates of poverty, while the group of the northern countries is characterized by the lowest rate of poverty. However, the group of eastern and southern

countries is characterized also by the highest heterogeneity from the point of view of poverty rate.

The country with the lowest poverty rate from the southern group is Slovenia, with just 17.1% poverty rate, while Greece is the country with the highest poverty rate, 34.8%. In the group with the eastern countries, the country with the lowest poverty rate is the Czech Republic with 12.2% poverty rate, while Bulgaria is the country with the highest poverty rate, 38.9%. In the group with the western countries, the country with the lowest poverty rate is The Netherlands with 17% poverty rate, while Ireland is the country with the highest poverty rate, 22.7%. In the group with the northern countries, the country with the lowest poverty rate is Finland with 15.7% poverty rate, while Sweden is the country with the highest poverty rate, 17.7%.

From the statistics above, we can observe that the lowest poverty rate in the southern group of EU countries are at the same level with the highest poverty rates from the northern group countries.

Identification of the Main Factors Influencing the Poverty Rate

To identify the main factors that are influencing the poverty rate, we have applied the principle component analysis. The graphical representation of the position of countries and variables in the two factorial axis system is represented in the figure below. The two graphs are related, the first one emphasizes the position of the variables while the second one shows the position of the countries based on the variables from the first one.

The full results of the data processing can be found in Appendix A.

FIGURE 2
Principal Component Analysis applied for income for the 28 EU countries

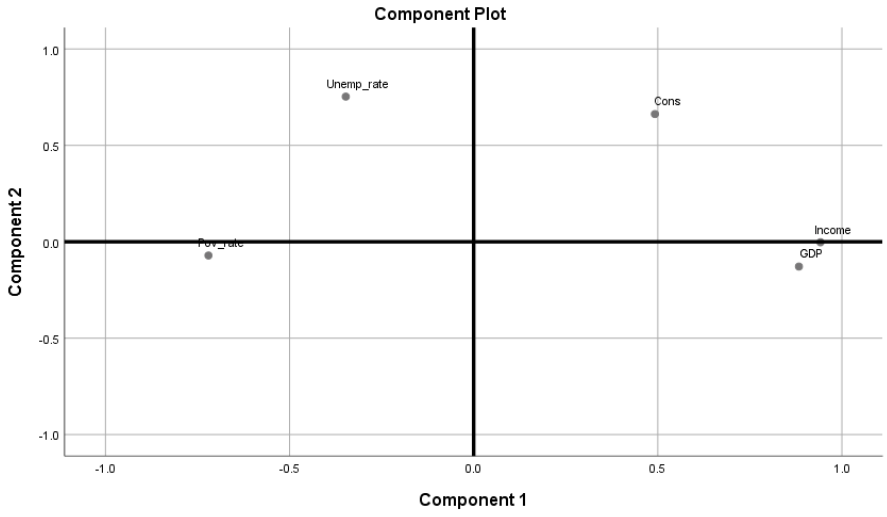
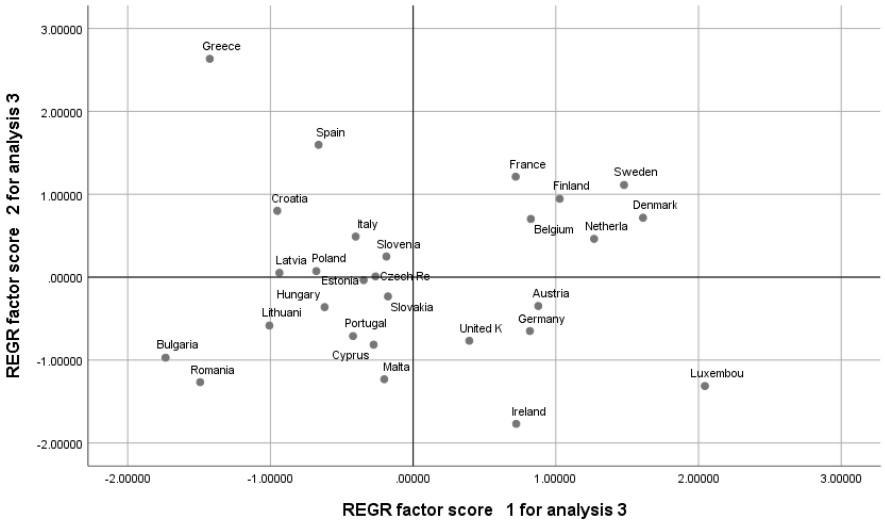


FIGURE 2 (continued)



Source: Own processing in SPSS.

The first factorial axis represented on the horizontal (Figure 2), that is explaining 50,969% of the total variance, shows a positive correlation between GDP and income and a negative correlation between these two and poverty rate.

Countries like Bulgaria, Greece, Romania are characterized by high poverty rate and low values of GDP and income. The countries of northern-western Europe, Luxembourg, Denmark, Sweden are characterized by low values of poverty rate and high values of GDP and income.

The second factorial component represented on the vertical, that is explaining 20.55% of the total variance, shows a positive correlation between unemployment rate and consumption. The highlighted countries, Greece, Spain, France are characterized by high unemployment rate and consumption. On the other side, there are countries like Ireland, Malta, Cyprus which have low unemployment rate and consumption.

Following the principle component analysis, it can be observed that the variables that explain the biggest differences between the countries of the European Union in terms of poverty rate are: income for the first axis and unemployment rate for the second axis. In order to measure the influence of these variables on the poverty rate, we will estimate in the following paragraph an econometric model considering the dependent variable, poverty rate.

Econometric Modeling

The results of the estimates are presented in this way:

FIGURE 3
The estimates of econometric model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.515[a]	.265	.206	5.82347

a. Predictors: (Constant), Unemp_rate, Income

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	305.262	2	152.631	4.501	.021[b]
	Residual	847.819	25	33.913		
	Total	1153.081	27			

a. Dependent Variable: Pov_rate

b. Predictors: (Constant), Unemp_rate, Income

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	26.337	3.448		7.638	.000
	Income	-.194	.074	-.461	-2.626	.015
	Unemp_rate	.246	.283	.152	.867	.394

a. Dependent Variable: Pov_rate

Source: Own processing in SPSS.

We can observe that the equation has the following form:

Poverty rate = 26.337 – 0.194 **Income** + 0.246 **Unemployment rate**

The most important factor of influence, considering a 5% level of significance on the poverty rate is income. Following the model, it means that increasing the incomes of EU countries will lead to a significant reduction in poverty rate.

When using this equation this would mean that with a 10% increase in income, the poverty rate would decrease on average by 1,94%. The significance threshold used in this model is 5%.

CONCLUSION

The problem of poverty can be eliminated. It will, however, take time, money, and a combined effort made by many people. The European Union already made decisions to diminish poverty. They come up with the Europe 2020 Strategy that want to focus on three

main categories: firstly, they want to have smart growth, which means to develop knowledge, build innovation and increase education and the digital society, secondly, they want to have a sustainable growth and least, but not last, they want to raise the participation on the labor market by having an inclusive growth.

By 2020, the Commission aims to accomplish the following targets: have 75% of the people aged 20-64 employed, invest in research and development, decrease school leavers and have less 20 million people suffering from poverty.

The poverty issue is not about who is affecting the most, but the factors that are contributing to the maintenance of it. To help diminish poverty focus should be on the repercussions of corruption and its effects over income. Reducing discrepancies between European Union countries will make the member countries believe in the EU and its directives.

The first part of the paper highlights that countries from South and East Europe have big discrepancies, in comparison with the North or Western ones. In the second analysis, poverty rate and unemployment have an indirect relation with GDP, income and consumption, meaning that countries with high poverty and unemployment rate have low GDP, income and consumption and the other way around. The last part shows that income plays the most important role in reducing poverty.

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APPENDIX A

Results of the main factors influencing the poverty rate in 2017

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
GDP per capita (current US$)	32730.5332	21217.86259	28
Pov_rate	22.8321	6.53504	28
Unemp_rate	7.6114	4.04874	28
Cons	19.1336	3.31480	28
Income	27.6379	15.48168	28

Correlation Matrix[a]

		GDP per capita (current US$)	Pov_rate	Unemp_rate	Cons	Income
Correlation	GDP per capita (current US$)	1.000	-.433	-.194	.172	.960
	Pov_rate	-.433	1.000	.249	-.371	-.493
	Unemp_rate	-.194	.249	1.000	.020	-.210
	Cons	.172	-.371	.020	1.000	.371
	Income	.960	-.493	-.210	.371	1.000

a. Determinant = .021

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.453
Bartlett's Test of Sphericity	Approx. Chi-Square	94.244
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
GDP per capita (current US$)	1.000	.796
Pov_rate	1.000	.524
Unemp_rate	1.000	.688
Cons	1.000	.681
Income	1.000	.887

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1	Component 2
GDP per capita (current US$)	.883	-.128
Pov_rate	-.720	-.071
Unemp_rate	-.347	.753
Cons	.492	.663
Income	.942	-.002

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Total Variance Explained

Component	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %
1	2.548	50.969	50.969	2.548	50.969	50.969
2	1.027	20.550	71.519	1.027	20.550	71.519
3	.878	17.561	89.080			
4	.528	10.569	99.649			
5	.018	.351	100.000			

Extraction Method: Principal Component Analysis.

Source: Own processing in SPSS.

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Contribution of South-Eastern Europe and the Black Sea Region States into "Zero Hunger" Sustainable Development Goal

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ABSTRACT: In 2015, the UN approved the Agenda for Sustainable Development until 2030 and has committed to achieving 17 Sustainable Development Goals, including Goal 2 "Zero Hunger" which incorporates food security, improved nutrition and sustainable agriculture. While according to the WHO standards, the countries of South-Eastern Europe and the Black Sea Region are at an "acceptable" level of deviation from the norm for food security, they are mostly importers of food. However, they have enough capacity to be self-sufficient and even provide food assistance to other countries. This article contains investigation of how South-Eastern Europe and the Black Sea Region states could assist countries that have the highest exposure to hunger threats. Assistance, depending on the degree of vulnerability to hunger issues and geopolitical situation, could include humanitarian aid, preferential customs and tariff regime, infrastructural programs for productivity enhancement and other types of preferences and reforms.

Keywords: Black Sea Region, Europe, food security, hunger, sustainable development.

INTRODUCTION

According to WHO standards, the countries of South-Eastern Europe and the Black Sea Region are at the "acceptable" level of deviation from the norm in terms of food security. These countries are mostly importers, although they have sufficient capacity to fully provide the necessary food for their people and to assist other countries.

In 2015, the UN member states endorsed the Sustainable Development Agenda until 2030 and committed themselves to achieving 17 Sustainable Development Goals, including Goal # 2 to eliminate hunger, ensure food security and improve nutrition and promote sustainable agriculture. The UN member states agreed to take measures to ensure the proper functioning of the markets for food products, to increase investment in rural infrastructure, agricultural research, technology development and the creation of plant and animal genetic banks (International Centre for Trade and Sustainable Development, 2017).

This article used research methods such as the analytical method, the comparison method, and cases. The UNECE and FAO's Statistical Database, Eurostat Statistics were data sources.

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GOAL # 2

If Goal # 2 is considered in more detail, it is to end hunger, ensure food security and improve nutrition, and also promote sustainable agriculture.

The percentage of agriculture in GDP in the countries of South-Eastern Europe and the countries of the Black Sea Region is very different: Bulgaria - 4.2% (2018), Romania - 4.8% (2018), Serbia - 7.5% (2018), Macedonia - 8.4% (2018), Russia - 3.6% (2013), Turkey - 7% (2016) (UNECE, 2018). This suggests the use of various tools to help achieve Goal # 2, depending on the development of the country.

The approach of the European Union (EU) focuses on four strategic priorities:

- Supporting agricultural growth in developing countries with a focus on small farmers.
- Promotion of sustainable farming practices.
- Combating malnutrition / growth retardation.
- Increased resilience to the climatic, economic, and political crises of the most vulnerable groups.

If we talk about Russia's contribution to achieving Goal # 2, then Russia is one of the key and largest donors to the UN World Food Program, supporting its work in many countries of the world. Since 2003, the Russian government has sent more than $ 430 million in support of humanitarian operations and the UN WFP development projects in the world. Funding from Russia allows WFP to carry out numerous operations in more than 27 countries, including Tajikistan, Kyrgyzstan, Armenia, Afghanistan, Sudan, Somalia, Zimbabwe, Bangladesh, Indonesia, North Korea, Angola, Ethiopia, Kenya, etc. (World Food Programme, 2018).

Russia is a middle-income country, the problem of eradicating hunger is not on its agenda, and in this regard, the strategy for achieving SDG 2 for the country has its own specifics. With all the improvement in the quality and safety of nutrition, the following problems remain: obesity is growing, and especially obesity among young people. The problem of providing the population with vitamins and minerals remains urgent: up to 70% of the country's population suffer from iodine deficiency, more than 30% of the adult population suffer from a lack of calcium intake. And inadequate iron intake is the main cause of the prevalence of anemia among pregnant women (Bobylev & Grigoryeva, 2016).

For the EU, the main thing of Goal # 2 is to fight obesity and the irrational use of food as Russia too. Obesity is a serious public health problem in the EU, affecting 15.9% of the total adult population in 2014. Maintaining a balanced nutritional diet with an adequately

active lifestyle is a problem for many. Although each person has different causes of obesity, the problem is usually associated with eating foods high in fat, salt and sugar, lifestyle choices characterized by low physical activity and high calorie intake, and sociological and hereditary factors (Eurostat Statistics Explained, 2019).

Goal # 2 for residents of the EU and developing countries is perceived differently. For developing countries, and especially the least developed countries (most of which are concentrated in Africa), on the contrary, there is a struggle against hunger and food shortages.

Accordingly, since the problems are different, then the approaches to their solution are different too. But there are common points (e.g., support for family farming).

The Examples of Help of the Countries of Europe

In 2007–2008, the EU responded to growing food security concerns by providing an additional € 1 billion to the Food Fund as a temporary measure to support the most affected developing countries. The EU and its Member States are and have been for many years the most important and reliable participants in global food security, both financially and politically (Food and Agriculture Organization of the United Nations, 2013).

The countries of Europe give wide trade preferences to the developing countries. The European Union is closely monitoring the situation from the beginning of its development and is stepping up its assistance to the most affected population of the starving regions of Africa in the form of humanitarian assistance.

The EU support contributes to the ongoing reforms of local governance and public finance management (PFM) and to agricultural and rural development policies. This will aim at reducing poverty and inequality.

The EU has made a significant contribution to improving global food safety management through the extent of its funding, advocacy and protection of key management issues. For example, by strengthening governance mechanisms (reform of the World Committee on Food Security); strengthening regional government structures such as the Comprehensive Africa Agricultural Development Partnership (CAADP); providing support for participation and multi-stakeholder dialogue (the Scaling Up Nutrition Movement and the International Land Coalition Initiative); supporting information gathering for decision-making (Food Security Information Network and the Food Security Portal); strengthening globally coordinated knowledge processes and policies needed to support sustainability programs through the INFORMED and FIRST programs and the Global Network for Food Crises; promoting the development of norms, principles and standards (the CFS Voluntary Guidelines

on Responsible Governance of Tenure of Land, Fisheries and Forest - VGGT- and CFS Principles for Responsible Agricultural Investment - RAI); supporting the creation and delivery of global public goods in research and innovation; and capacity building in various areas. At the country level, the EU was an active participant in the political dialogue and supported actions to increase policy effectiveness, strengthen sector management and improve the lives of millions of people around the world, especially those most in need of support (Publications Office of the European Union, 2019).

EU Assistance for Bhutan

One example of EU assistance is support for Bhutan. On March 13, 2019, the Director-General of the European Commission for International Cooperation and Development, Stefano Manservizi, announced the payment of budget support in the amount of € 9.5 million to Dr. Lotai Chering, Prime Minister of Bhutan (European Commission, 2019b).

Grants are provided to 30 local governments in Bhutan, which provide funds for the construction of farm roads, water supply and irrigation systems, religious buildings, schools and medical facilities, electrification, fencing / gates, walls and drainage. This will help to increase the area of land for organic and natural production, the number of resistant to climatic changes, seeds of grain and vegetables supplied to farmers, and an improved breed of dairy cattle (European Commission, 2019b).

Significant progress was made in the rural infrastructure of Bhutan: about 13,000 acres of land was transferred to farm mechanization, more than 5,000 km of agricultural roads were built and 2,600 km of irrigation canals were built, and 34 storage tanks were installed for irrigation systems. The program also contributed to the creation of an additional 35,000 jobs in agriculture and the handicraft industry in accordance with the 11th five-year plan (European Commission, 2019b).

Thanks to the support described above, the total amount of assistance to Bhutan in the framework of cooperation with the EU in the field of development for the period 2014-2020 exceeded € 42 million. There are two priority areas here: 1) local government and civil society; and 2) sustainable agriculture and forestry (European Commission, 2019b).

The help is complemented by thematic and regional projects in the areas of trade, environment and climate change, and this is just one example of assistance of the countries of Europe to starving countries.

The New Fund is Agri-Business Capital

Neven Mimica, Commissioner for International Cooperation and Development, launched a new fund, Agri-Business Capital (ABC), in Rome this February, which will help create an alliance between Europe and Africa for sustainable investment and jobs.

Speaking at a presentation organized by the International Fund for Agricultural Development (IFAD), Commissioner Mimica said, "The EU is committed to boosting agri-business investments, strengthening livelihoods and creating sustainable jobs in rural areas, especially among traditionally under-served communities. The ABC Fund will help us achieve this – which is why it has our full backing" (European Commission, 2019a).

The EU has allocated € 45 million to this fund. In addition, the Government of Luxembourg and the African Green Revolution Alliance, an international non-governmental organization, contribute € 5 and € 5 million, respectively (European Commission, 2019a).

The new ABC fund, created by the International Fund for Agricultural Development (IFAD), is primarily intended for individual small farmers and farmer organizations. The size of loans ranges from $ 25 000 to $ 1 million (approximately from € 22,000 to € 885,000), which expands their access to finance. This "missing middle" can potentially be profitable and influence development, but so far has not had enough funding. It is expected to attract more than € 200 million of investment and can benefit up to 700,000 rural households (European Commission, 2019a).

CONCLUSION

The solution to the problem of hunger lies outside the extensive expansion of agricultural production, and sometimes even outside the sphere of production of agri-food products. Awareness of this fact requires a radical paradigm shift in the agro-industrial complex, integrating into it issues of effective resource management, quality and food safety.

With my article I want to attract as much support as possible to such a serious problem as world hunger. Each of us can make a small contribution to eliminating world hunger, supporting local farmers and buying products in the markets, as well as adhering to the conscious consumption of food.

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Sustainable Tourism in the Black Sea Region

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ABSTRACT: *Tourism has become an important sector that has an impact on development of country economy and helps in understanding the various cultural, geographical and historical facts of each country. It opens a whole new window to the world for the traveller enabling in broadening one's horizon.*

The main benefits of tourism are income creation and generation of jobs. For many regions and countries, it is the most important source of welfare. Besides, its development is interconnected to several other sectors of economy, such as transport, infrastructures, culture, to name but a few. Tourism itself has taken various forms, depending on the reason of the travel, such as business tourism, religious, medical tourism, agritourism and many others, while new destinations have emerged in the global tourist map. As home to rich and beautiful collection of flora and fauna and more than ten small islands, the Black Sea has now emerged as one of the popular tourist attractions of the world.

The Black Sea countries join their efforts towards achieving a common target, the development of tourism in a sustainable manner to the benefit of the peoples of the region. Building a sustainable future for the Black Sea region, however, entails various aspects, closely linked to each other. For example, efforts to economic development should not be in expense of environment. It is important to underline that the latter is often damaged by uncontrolled economic activities; tourism being one of them. Excessive use of natural resources, littering of the coast, oil pollution, illegal logging, among others. are a few of the numerous risks that threaten the environmental equilibrium in the Black Sea region. Therefore, the implementation of environmentally friendly models of tourist activities ranges among the primary objectives of sustainable development.

***Keywords**: Black Sea Region, Development, Economy, Sustainable Tourism.*

TOURISM AND SUSTAINABLE TOURISM

What is tourism?

Although obvious at first glance, defining what tourism actually is can be too difficult. On the one side, research suggests that "tourism is the activities of people traveling to and staying in places outside their usual environment for leisure, business or other purposes for not more than one consecutive year" (go2 Tourism HR Society, 2019). On the other side, "tourism is a dynamic and competitive industry that requires the ability to adapt constantly to customers' changing needs and desires, as the customer's satisfaction, safety and enjoyment are particularly the focus of tourism businesses" (go2 Tourism HR Society, 2019).

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To measure the size of the tourism industry is not easy. This is because tourism is far broader than the traditional industries like manufacturing, or forestry, for example. Actually, tourism businesses fall in in a wide variety of sectors providing products/services to visitors as well as to local residents.

What is sustainable tourism?

Sustainable tourism is a way of visiting a place as a tourist and trying to make only a positive impact on the environment, society and economy. It is expected to minimize the negative effects of tourism development in community and environment and to have a positive impact on local economies while protecting the natural and the cultural heritage. This means that all resources should be managed so that the hosts' and tourists' needs would be satisfied and also the future generations could meet the same requirements.

Now, more than ever, people are travelling around the world. And their number is expected to increase to 1.8 billion per year by 2030. Unfortunately, the most travelers are practicing mass tourism. This often causes destruction to the visited country or its people and a very small amount of its generated income stays in local hands. Most of it goes to transnational corporations - airlines, hotels, and other non-local companies. Also, when there are many tourists in a certain location, cultural conflict may occur. Local codes of behavior could easily be broken by the mass tourist, especially by the uninformed ones. The worst is that mass tourism doesn't hold travelers accountable for these actions. It is primarily focused on generating income. "As a result, mass tourists tend to enter new cultures without adequate preparation" (Portugal Farm Experience, 2019).

Unlike mass tourism, sustainable tourism is about showing respect: respect for the environment, respect for culture, and respect for people. Tourists can achieve that by not overusing the resources, by learning about the culture, talking to locals, behaving appropriately by being polite to staff. (World Travel & Tourism Council, 2016)

BULGARIAN TOURISM

History

Statistics of the World Tourism Organization indicates that international tourist arrivals grew by 2700% for the last fifty years – from 25 million in 1950 to 700 million in 2003. Tourism growth applies also to Bulgaria, although the period of central command economy until late 1980s in the country:

> Bulgaria has also experienced tourism growth in recent years and now has an opportunity to further develop tourism as a means of economic and social development. Before 1989, Bulgaria

> was an important tourism destination in Eastern Europe. The government invested heavily in tourism infrastructure, not only along the Black Sea and in the ski resorts, but with the creation of more than 30 000 km of marked hiking trails, a system of mountain huts and many large health spas. After 1989, Bulgaria lost its international tourists to the European destinations that most Eastern Bloc travelers could not reach before. Additionally, the post-1989 government did not have the knowledge, experience or finances to market Bulgaria in order to bring more tourists here. (Fromer, 2005)

Bulgaria is now in the middle of a rapid uptick in the number of visitors. The Southern European country has seen a 30% boost in tourism over the last three years, with 9.2million foreign nationals visiting in 2018 alone – that's over 2million more than the entire population of the country. And it's only set to grow, with predictions suggesting that there will be another 50% increase over the next ten years. But while it can undoubtedly be a huge source of income, sustainability can be an issue when it comes to the long term environmental and socio-economic impact of tourism on a country and its people (BBC StoryWorks, 2019).

Mass tourism

The main tourist product of Bulgaria is mass tourism, with the attraction of the sun in the summer and snow in winter. While some publications provide a balanced perspective on tourism's impacts in Bulgaria, research usually focuses on the negative impacts of mass tourism. Specifically, there has been an emphasis on its links to pub crawls and alcohol abuse, prostitution (Hesse and Tutenges, 2011), high staff turnover as a consequence of seasonality (Matev and Assenova, 2012), sand dune destruction, deteriorating sea water quality and other environmental impacts on coastal areas, which have led to low levels of sustainability (Bachvarov, 1999).

Making tourism more sustainable

There are some policies that can be developed for more sustainable tourism. They should recognize the two directions in which tourism policy can exert an influence (UNEP & WTO, 2005, 18):

- "minimizing the negative impacts of tourism on society and the environment"; and
- "maximizing tourism's positive and creative contribution to local economies, the conservation of natural and cultural heritage, and the quality of life of hosts and visitors".

One of the best ways to make tourism more sustainable is through the cultural richness – to respect and enhance the historic heritage, authentic culture, traditions and distinctiveness of host communities. Cultural richness is often considered to be in the social sphere of sustainability, but it has a strong bearing on environmental aspects in terms of the built

environment and cultural dimensions of society's interaction with nature (UNEP & WTO, 2005).

Bulgaria is on her way to sustainability by developing the cultural tourism. The most recent example for this is a unique historical park near Varna.

HISTORICAL PARK VARNA

We have all had dreams, at some point in our lives, of what we would do or how we would change history if we could go back in time, why not thousands of years back. A place where the dreams can come true is the Historical Park near Neophit Rilski village. This 'time machine' is just around 30 kilometres from the city of Varna on the Black Sea. The park is divided up into historical epochs and covers an area of 50 hectares. The Historical Park is for cultural tourism, education, and entertainment purposes and is also described as "the world's largest and first of its kind" by its creators.

The historical park goes through the epochs from the Neolithic and the Chalcolithic age, Roman times, the Proto-Bulgarians, the first and the Second Bulgarian Kingdom. It shows periods that have not been reenacted as an addition to what already exists. The park offers a thrilling walk-around, but in addition, anyone can be the central character in the action. Visitors can also become part of the previous ages with putting on period costumes, learning different kinds of crafts, trying the authentic food of the times, practicing different kinds of sports - horse riding, archery, or conquer a fortress.

Each one of the sites at the park is built of authentic materials – stone, wood, marble, and the investments, 50 million euro, are 100 percent Bulgarian, with no credit or European funding. It's completion is planned in 2022, until then every year, a new section of the Historical Park is opened to the public.

The "Historical Park" near Varna will feature numerous replicas of archaeological, historical, and cultural monuments and sites from all over Bulgaria covering 10,000 years of history: from the New Stone Age all the way to the Second Bulgarian Empire in the Late Middle Ages.

The Neolithic, Chalcolithic and Thracian zones have opened on 22 June this year. The Thracian section includes the first fully restored Thracian palace, a temple to the Mother Goddess, two Thracian tombs, a Slav and a Proto-Bulgarian settlement with the houses typical of the period. Visitors can see a multitude of historical reenactments and rituals, something made possible thanks to the joint work of the people who created the park with foremost historians and archaeologists (Kolev, 2019).

Bulgaria's most famous archaeological and historical landmarks to be replicated in the Historical Park. The Roman Antiquity Theater of ancient Philipopolis, which is located in today's Plovdiv. Plovdiv was awarded and being known as one of the European Capitals of Culture for 2019. The 10th century Imperial Palace in Veliki Preslav (capital of the First Bulgarian Empire in 893 – 970) will be also recreated. As another historical landmark is a part of the Baba Vida Fortress in the Danube city of Vidin (capital of the Vidin Tsardom, a rump state of the Second Bulgarian Empire, in 1371 – 1396).

Looking back on the past ages and traveling from the antique times to the golden age of Bulgaria, this country has proved that is rich of a national spirit, culture and intelligence.

The archeological researches reveal the abundance of ancient cultures. This heritage, which reflects the thousand-year-long human evolution, reclaims the deserved role of Bulgaria in the history of the world and guarantees an opportunity to preserve the tight connection between the antique and the modern, between archeology and the new world (Dimitrova, 2019).

Over 4,000 people have been involved in the project since its inception eight years ago.These include some of the leading archaeologists as consultants as well as historians, artisans, reenactors, sculptors, writers, musicians, aiming for the realistic look of the Historical Park.

Some of the park's most important consultants include archaeologists Prof. Margarita Vaklinova, former Director of the National Institute and Museum of Archaeology in Sofia, and Prof. HitkoVachev from the VelikoTarnovo Regional Museum of History as well as thracologist Prof. Ivan Marazov (Dikov, 2019).

ECONOMICAL BENEFITS

Importance of tourism arises from the benefits it brings for the economic and social development of any host country. Tourism can be a significant part of any local economy contributing towards complete growth and development of a country: one, by bringing numerous economic value & benefits; and, second, helping in build country's brand value, image & identity. However, there is much more, because many local revenues are not easily quantified, as not all tourist expenditures are formally registered in the macro-economic statistics. In this case informal guides and street vendors can earn money from tourism as an informal employment. The positive side of this phenomenon is that the money are reinvested in the local economy and is spent over and over again having a great multiplier effect. As an example, the Historical Park Varna can be given, where all the investments are coming from

Bulgarian sources, without any European funding. The World Travel and Tourism Council estimates show that the indirect contribution of tourism is approximately equal to the direct tourism expenditures.

Moreover, tourism can contribute to the conservation of environmentally sensitive areas. Direct financial revenue from toursim can be allocated for investments in the protection and management of those areas. The last year statistics for the museum attendance only of the Archaeological Museum in Varna show that the total revenue of ticket sales is almost 500 thousand Bulgarian leva. At the same time the new opened Historical Museum near Varna offers wide choice of ticket packages. The tourists can choose between seasonal, individual or family ticket. It is also a strategy of attracting visitors.

The government is important to the tourism and helps increasing the incomes. It collects money in more far-reaching and indirect ways that are not linked to specific parks or conservation areas. Visitor fees, income taxes, taxes on sales or renal of recreation equipment and license fees for activities such as hunting and fishing can provide governments with the funds needed to manage natural resources. (see: http://biodiversity.ru/).

The Historical park near Varna is an example of how cultural tourism can also bring financial benefits to the country. The investments of 50 million euro are 100 percent Bulgarian, with no credit or European funding. This means that all the revenue will be calculated to our GDP. All the stakeholders are Bulgarian which increases the possibility of internal reinvestments.

Another economic benefit is the job creation opportunity. The Park presents great opportunity for younger people who may have difficulty in finding employment. Over 4,000 people have already been involved in the project and when the Park is completed in 2022 it will need lots of workers (see: https://www.wttc.org/). These are going to be not only historians, but also restaurateurs, actors, guards, martial arts specialists and guides.

CONCLUSION

The heritage of our planet gives an opportunity for great touristic experiencing and personal development. Sustainable tourism helps visitors enriching themselves and having deeper point of view. The safeguarding of heritage resources and cultural-historic landmarks presents the fundamentals and also the key for more effective sustainable development. All the landscape and nature, generic memory, as well as, all endogenous resources are being enjoyed by tourists and local community, who should be responsible for saving the cultural identity of territories.

Sustainable tourism is a form of development that presents challenges and opportunities to local and regional institutions. That is a way, what is crucial is the way they succeed to incorporate research into their practice of conservation, promotion and management of private enterprises. In particular, understanding motivations and key assets can provide a benchmark for better policy, and constitutes a first step in engaging the theoretical ambitions of sustainable development and putting it into practice. All the methods used by the institutions in collaboration with the invertors and foreign organizations, can lead also to international long-term relationships. These challenges can serve to better promote territories and to fully mobilize the potential inherent in territories. Both financial and international relationships will bring the advantages for our planet at all. Essentially serving to the nature and saving it still remains the most important mission of sustainable tourism.

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Implementation of the 2030 Agenda for Sustainable Development in Turkey

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ABSTRACT: Sustainable development is a development model that can meet the needs of today's generations without compromising the possibility of meeting the needs of future generations. This concept has entered the world agenda towards the end of the 20th century and has become a global implementation plan with the international agreements signed in the 1990s. The latest version is the 2030 Agenda for Sustainable Development that has been signed in High-level Political Forum on Sustainable Development. This Forum is the central UN platform for the follow-up and review of the 2030 Agenda for Sustainable Development adopted at the United Nations Sustainable Development Summit on 25 September 2015. 2030 Agenda for Sustainable Development offers a framework that urges countries to take action at all levels. The global agenda that such a framework presents has provided an opportunity for countries not only to integrate sustainable development policies into their national policies, but also to deal with global challenges. 2030 Agenda set the 17 Sustainable Development Goals (SDG) and 169 targets. These goals seek to build on the Millennium Development Goals and complete what these did not achieve.

Turkey is implementing the sustainable development policies incorporated within regulations and policy documents in a variety of policy fields and sectors. Turkey's National Development Plan (NDP) as the highest-level national policy document in Turkey, sets out all macro-level national policies and priorities according to SDG's. Turkey has first introduced the concept of sustainable development into 7th Development Plan in 1996 after 1992 Rio Conference. Since 2000, Turkey has developed a national sustainable development indicator set, composed of 132 indicators under 10 categories. Turkey is currently in the stage of preparing long term vision of the 11th NDP.

This paper will examine the implementation of 2030 Agenda and SDG's in Turkey by looking into the process of NDP's, regulations and responsible governmental organs.

Keywords: sustainable development, sustainable development goals 2030, Turkey.

INTRODUCTION

Sustainable Development Goals (SDGs) are 17 main achievements that United Nations (UN) has introduced to whole World to reach by the end of 2030. As every country Turkey is also trying to reach these goals. This paper is trying to present the SDGs and the efforts that Turkey has been done.

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SUSTAINABLE DEVELOPMENT GOALS

SDGs were first introduced at the UN Conference on Sustainable Development in Rio de Janeiro in 2012. The objective was "to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our World" (UN).

SDGs was not the first attempt of UN the frame basic goals for entire World. The SDGs replace the Millennium Development Goals (MDGs), which dated back to 2000. Main purpose of the MDGs was to tackle the indignity of poverty. The MDGs were established also by the UN and were designed to create measurable, universally-agreed objectives for tackling extreme poverty and hunger. Preventing deadly diseases, and expanding primary education to all children, were among other development priorities. MDGs worked for 15 years under those purposes and made some huge success in those problematic areas. The achievements of the MDGs provided the world some valuable lessons and experience to begin work on the new goals as UN says. But the effort was not enough because there were still problems to be solved. The world still need to end hunger, to achieve full gender equality, to improve health services and to get every child into school beyond primary. That was the moment for creating the SDGs.

The SDGs are the commitments for every country. To successfully implement the SDGs by 2030 there is an agenda called 2030 Agenda, and complementary Addis Ababa Action Agenda (UN, 2015). For the purposes that MDGs started, 17 SDGs created and all of them are interconnect, meaning success in one affects success for others. And the main motto of this movement is "no one is left behind"

The SDGs are;

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development (UN, 2012).

SITUATION IN TURKEY

Since the UN has introduced those SDGs, countries are obligated to achieve these goals. Turkey has also taken action to do so. Turkey has been working to cooperate and engage a wide range of stakeholders including academia, civil society organizations, and private sector at local, national and international levels. Turkey stated its view about the SDGs in Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC) as "Been participating and contributing to the global efforts on sustainable development, putting forward its conditions and sharing experience, with an awareness of the need for sustainable development approach for global welfare and with the responsibility of being a strong country" (COMCEC, 2015).

Turkey is implementing the sustainable development policies incorporated within regulations and policy documents in a variety of policy fields and sectors. Fulfilling this mission requires some actions but Turkey decided to do this according to a plan.

Turkey has been using a special plan called National Development Plan (NDP) to organize all the stakeholders and to control the process. Being defined as the highest-level national policy document in Turkey, NDP sets out all macro-level national policies and priorities. NDPs have a long history dated back to the early days of the foundation of the

country. The first NDP was created at the Izmir Economic Congress in 1923, the same year of the foundation of the Republic. Since then Turkey has been using NDPs as an agenda of development (MoD). According to Law no. 5018 Turkey has to prepare those NDPs in every 5 years. Turkey has first adopted the concept of sustainable development into the 7th Development Plan in 1996 after 1992 Rio Conference. During the last decade, outcomes of Rio+20 have been harmonized with the 10th Development Plan that covers 2014-2018 (MoD, 2016). The legislative framework in Turkey supports sustainable development by supporting NDPs. NDPs have been firmly established and the existing structure provides a conductive environment to achieve SDGs. Turkey has been consistently including and referring to sustainable development policies in its NDPs since 1992.

Turkey has newly published the 11th NDP which will cover the period of 2019-2023. It has been published at the July 2019. The Ministry of Development (MoD) has started working on the preparation that it became the Strategy and Budget Office under the Presidency (PSB). They have followed the international processes, including the open working group and intergovernmental negotiations on SDGs. From the very outset of the implementation phase of the SDGs, the Ministry worked in cooperation with all stakeholders for the preparation of the documentary. Within the Ministry, a task force composed of relevant experts, has been assigned to integrate SDGs into public policy documents at all levels; including NDPs, regional plans, annual programs, and sectoral strategies. In terms of external coordination among line ministries and related organizations, the high level councils playing an important role in the decision making process will provide influential platforms to advance the SDGs. In this context, National Sustainable Development Commission (NSDC) have been constituting a background for the high level technical setting for the SDGs' reviewing, implementation, monitoring, evaluation and international reporting processes (MoD, 2016). The 11th NDP provides a set of policies that will guide all institutions in setting their priorities for the preparation of other policy documents and strategic plans (PSB, 2019). For effective implementation of the Development Plans, medium term programs, annual programs, strategic plans, regional development plans and sectoral strategies have been prepared in accordance with the Plan. Public institutions determine their policies, investments, institutional and legal arrangements accordingly. Since it has been newly published and not implemented yet, this paper will examine not only the 11th NDP, but also the former 10th NDP outcomes to show the realistic situation.

Since being a candidate country, Turkey is also working with European Union (EU) and preparing regional reports for the SDGs. EU has been preparing their own agenda for 2030 (EC).

The 10th Development Plan that covers 2014-2018 was based on a "human-centered development" (MoD, 2014) and outcomes of Rio+20 have been harmonized in it. After setting the political framework, Turkey has planned to publish another report called National SDG Review Reports which have been prepared on a periodical basis. Monitoring process has been under control of Turkish Statistical Institute (TurkStat). Monitoring procedures are based on global SDG indicators. There is also the voluntary monitoring and reporting processepioneered by the private sector. Since 2000, Turkey has already developed a national sustainable development indicator set, composed of 132 indicators under 10 categories (MoD, 2016).

After the adoption of Agenda 2030, Turkey was among the first 22 Voluntary National Review (VNR) presenting countries. Review stated the affords to achieve SDGs. Like preparing the plans, review also engaged all stakeholders including public and private sectors, local authorities, NGOs, academia and citizens as saying "during VNR preparations 2.962 representatives were consulted directly from government bodies, 312 NGOs, 2000 companies and 50 municipalities (UN, 2019).

According to the report Turkey is standing at an advanced level. But there are some areas that need improvement in practices and projects. "Significant progress was achieved in SDG1, SDG3, SDG6, SDG7, SDG9 and SDG11. More effort is required to address gaps in implementation, to increase quality of services, and to enhance financial and technical capacities" (UN, 2019). Which means Turkey is in good condition on ending poverty in all its forms everywhere; ensuring healthy lives and promote well-being for all at all ages; ensuring availability and sustainable management of water and sanitation and access to affordable, reliable, sustainable and modern energy for all; building resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; making cities and human settlements inclusive, safe, resilient and sustainable. Since there are 17 SDG and Turkey is in good condition in 6 of them, which means there is still much things to do. But review is in more optimistic view.

> As a middle-income country, Turkey has made progress in all three dimensions of sustainable development and taken fundamental steps in eradicating poverty, reducing inequalities and addressing the vulnerable. Based on a human-centered development approach and having a younger population, Turkey has achieved remarkable progress in providing better quality, broader and more accessible public services, particularly for education and healthcare. Policies to reduce inter-regional infrastructural disparities and promote technological facilities across the country marked an inclusive development pathway (UN, 2019).

Review is evaluating the situation of Turkey by the economic and human capacity. Depending on the economic structure Turkey's achievement on education and healthcare seems progressive.

> Turkey promotes "leaving no one behind" principle both at home and abroad, and advocates raising the voice of developing countries in international decision-making mechanisms. As an emerging donor, Turkey supports development efforts of developing countries. The establishment of the Technology Bank for Least Developed Countries as a UN entity in Turkey in 2018 marked SDG17.8 as the first global target achieved.
>
> In 2018, with its total (official development assistance) ODA of 8.6 billion USD and ODA/GNI ratio of 1.10%, Turkey was one of the few countries that fulfilled 0.7% ODA/GNI target. The development assistance in 2014-2018 exceeded 38.7 billion USD, including 7.3 billion USD in NGO grants and private sector direct investments (UN, 2019).

Review also consider affords of Turkey to help the Least Developed Countries. Those afford also help the SDGs fulfillment in general.

> Ever willing to offer a helping hand to those in need, Turkey has responded generously to the influx of Syrians since the onset of Syrian humanitarian crisis in 2011. Turkey has granted temporary protection to these people. Hosting the largest refugee population in the world, Turkey has spent more than 37 billion USD for the well-being of 3.6 million Syrians to date. They can access to public services equally as Turkish citizens, especially for the education, healthcare and humanitarian needs (UN, 2019).

Review also consider affords of Turkey in Syrian refugee crisis. Since Turkey is hosting the most crowded refugee population it is impossible to write any report about Turkey without considering this situation.

CONCLUSION

Sustainable development goals defined for the entire world to meet the needs of today's generation without compromising the ability of future generations to meet their needs. Like every country Turkey is trying to reach these goals in its own way. The VNR shows that afford are not pointless and make successful results in achieving the SDGs.

SDGS should be developed by the end of 2030 with international cooperation. But trillions of dollars of financing are needed every year until 2030 to fulfill these targets. Despite the resources for development targets are decreasing, the SDGs still need to be fulfilled in the next 10 years. Proper planning and reliable reporting systems are needed to incorporate the SDGs into the budget process, thus increasing financial support. Turkey is using a national plan to achieve this mission, which is also a part of the EU regional plan and the universal Addis Ababa Agenda. All these affords are for a better future.

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The Effects of Syrian Migrations to Turkey's Economy

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ABSTRACT: From the year 2011 until today, there is a civil war between forces of the Ba'ath government and forces against this government. This situation causes the migration of Syrian people, which is the biggest in Middle East, to find a new country for living.

The implementation of Turkey's open-door policy is an opportunity for those Syrian people. Thanks to this policy, in a short period of time, a huge number of Syrian refugees came to Turkey, brought about many risks and problems for Turkey's sustainable development goals.

At first, the Syrian migration was thought it would be temporary, however, after 6 years this problem could not be solved. In fact, it became more permanent. The high costs for providing facilities and services such as, health services, education, employment, security and social rights are a big burden for the Turkish economy. As Turkey already faces a high unemployment rate, creating new workplaces is a big problem. This process has negative effects on our country's development, and it is not possible to resolve the Syrian refugee problem in the near future. Turkey has spent about $ 5.5 billion for Syrian refugees so far. The rate of help that came from abroad is only %4 of this spending.

In this paper the improvement of economic relations between Turkey and Syria after the year 2000 will be evaluated and the possible impact of the crisis in Syria on our economic relations will be thoroughly examined from different views. In addition, one of the main topics in this research is how Turkey is affected by the problem of this migration.

Keywords: migration, sustainable development, Turkish economy.

INTRODUCTION

Sustainable development can be defined as shaping the day and future in the light of ecological, sociological, economic and cultural concept in a way that allows future generations to develop and meet their needs by not consuming natural resources. Turkey's economic sustainable development goal is to support inclusive and sustainable economic growth, full and productive employment and decent work for everybody. While seeking to achieve these development goals, Turkey is on the other hand right in the middle of a highly problematic geographical region. The neighbor countries of Turkey are both politically unstable and also economically weak. On the other hand, Turkey is also the transit route to Europe. Because of this geographical location Turkey therefore faces frequently the refugee

problem. Since armed conflict and violence make their lives unsustainable in their countries, most of the asylum seekers, who are forced to leave their homeland or the communities in which they live, prefer to stay in neighboring countries, which is the first shelter for them. The crisis in Syria in 2011, has forced millions of Syrians, who are afraid of their life safety, to seek refuge in other neighboring countries and mainly in Turkey. This situation has shown itself as a reflection of the problems in Syria to Turkey. It is clear that the arrival of such a huge number of asylum seekers to any country will create significant security, economic and political problems for a country. Therefore, as the migration process is prolonged, the costs of asylum-seekers to that country and their impact on the country's sustainable development plan increases.

THE EFFECTS OF SYRIAN MIGRATION TO TURKEY

There are some uncertainties about Syrian migrants who immigrate to Turkey, like whether will they repatriate or if they not how would be living conditions for them and how it would effect the people of Turkey. These uncertainties make it difficult to draw the boundaries of the Syrian refugees' problem legally and politically. Turkey's economic sustainable development goal is to support continuous, inclusive and sustainable economic growth, full and productive employment and decent work for all. There are various things to do to support these objectives like; supporting production activities, employment creation, entrepreneurship, creativity and innovation, and encouraging the growth and formalization of enterprises of various sizes through access to financial services, protecting employee rights, and improving safe working environments for all workers, including migrant workers, especially female migrants and people working in unsecured jobs. Turkey is researching to resolve the unemployment problem for immigrants, to create living conditions in humanitarian level, to provide access for migrants to the opportunities which are already accessibly by Turkish citizens, and also fatal and non-fatal work accidents and its frequency ratio. These kind of researches and processes deemed necessary in terms of humanity and therefore are made, but on the other hand they cause to experience financial difficulties by Turkish citizens. The total public expenditures for social protect and employment programmers constitute a cost item to Turkey as a rate of national budgets and gross domestic product.

While these researches are continuing, what is happening in Syria?

Turkey's international obligations to refugees has been identified by the Geneva Convention and in the framework of the Protocol Relating to the legal Status of Refugees in 1967.

However, because Turkey's Convention on the "geographical reservation" in 1951, Turkey only accepts people coming from Europe as migrants, and people from non-Europe countries are considered as refugees. Refugees status cannot be given to Syrians in Turkey because of this geographical reservation and the limitation "the incidents in Europe" statement included in our national legislation. (Güçtürk, 2014). The right of treatment in humanitarian standards as a part of universal refugee rights such as the right to benefit from health care, and the right to travel are provided to Syrians in Turkey not as a right but as an opportunity Syrians can travel and reside in the country without any restrictions. In addition, with a temporal protection status protection against forced repatriation is provided. Although the educational opportunities are limited to the camps, efforts are being made to improve the facilities. A partial regulation has been introduced regarding the working permission, which is one of the refugee rights. Social security and citizenship are not available yet. Increasing population because of immigration, brought a boom in retail and manufacturing sector. The rapid population growth caused by migration has also revived the manufacturing and retail sector. The fact that the state procured the goods used in the services provided to the Syrian refugees from local suppliers also revived the local economy.

At first, even if the hot money, brought by the immigrant refugees, revived the market and increased the sales, the price of goods and services also increased. Due to the fact that most of the refugees living in cities rented or even bought a house, exorbitant prices in house sales prices and rents emerged, which caused Turkish low income families be in a difficult situation. Because Syrians are consent to pay a high rent, which families belonging to the middle income group in Turkey can never be able to afford, the refugee shelter problem is solved but on the other hand citizen housing problem arises. It has been seen that most of migrant families have a lot of children and they spent all their days at the streets which are close their home, some of them panhandling. In fact, it was seen that some of the refugees had to rent two separate homes because they had a crowded family. Refugees are often reluctant to apply for a work permit because it is burdensome (requiring time, effort and money) to obtain a work permit (Yılmaz, 2013, p. 12). Their starting as an illegal worker for low fee at unqualified employment sector, derived an important profit in employer viewpoint, however domestic workers slogged on comparing with low-cost labor. The fact that Syrian refugees started to work as illegal workers for low wages in the unqualified labor market, provided a significant profit for the employer but made it difficult for domestic workers to compete with cheaper labor force. This situation creates dissatisfaction for local workers and employment problems for country policy in general. Workers who are willing to accept low wages, or who

are not willing to work, play an important role in the country's macroeconomic balance. Syrian refugees also have the privilege to start a business without the obligation to pay taxes. When the analysis of benefit-loss is made, it seems that marginal utility decreased to the benefit of loss and Syrian migrants are not pleased about this situation and some of Syrian employees claim that they have been exploited for their labor.

The economic effect has been in the field of most trade. Between Turkey and Syria, especially after 2003, trade has picked up thanks to the ongoing political information. Just before the crisis erupted in 2010, commercial activity between Turkey and Syria reached a peak of $ 2.3 billion. Since 2011 the trade came to a halt as a result of the war and in 2012 the trade volume has dropped to half a billion (Dinçer et al, 2013, p. 33). Even if the war continues, trade efforts continue to meet the needs of communities on both sides.

Increase in food inflation

One of the most important economic effects in the region where asylum seekers live is the increase in food inflation. According to TUIK data, throughout Turkey, after 2013, the highest increase at food inflation occurred as %1,72 in April. By breaking the 12-year record, food inflation rate from 14.4 percent to 14.7 percent on a yearly basis.

Increase in number of child labor

The number of child labor is also increasing. In April 2015, Syrian child labors, working at a textile workshop, were viewed by a secret camera by Holly Williams, a TV -reporter of American CBS, and has published under the title ‘refugee children are forced to work in Turkey’. The same news also indicated that these children work for 25€ per a week.

Increasing problems in the health sector

The report "The Impact of Syrian Asylum Seekers to Turkey" released in 2014 by the Middle East Strategic Research Center (ORSAM) and the Turkey Economic and Social Studies Foundation, the following determinations are made related to the health services given for asylum seekers:

- Over 500,000 patients were referred from refugee camps to state hospitals,
- The number of patients who were operated in Turkey has exceeded 200 thousand,
- State hospitals in border cities serve Syrian asylum seekers between 30 and 40 percent of their total service,
- Not only asylum seekers are treated in hospitals, but also those injured in conflicts in Syria,

- Many hospitals in border provinces experience capacity problems.

The middle report of the East Strategical Research Center (ORSAM) also expressed the reactions of local people who could not receive treatment. The report stresses that the local population is not receiving adequate health care and that health care has deteriorated.

Ethnic and denominational polarization

According to unofficial figures, the number of refugees in Turkey is equivalent to the population of metropolitan cities like Izmir. Asylum seekers, whose population is rapidly increasing day by day, raise concerns about future ethnic and sectarian polarization.

The education problem of refugee children

While the education problem is still one of the main problems that cannot be solved in our country, there are education problems of the refugee children that we should think about and that concern us all. About the education problem of Syrian children, Hürriyet writer and academician Selçuk Şirin says:

"There is a perceptible result arising from the researches about refugees around the world. If you do not provide refugees and especially their children an environment in which to live in humane they will be caught up in a spiral of violence, and come up with a larger social bill. Therefore, Syrian children have to be handled as an issue of Turkey. There is a grave picture that 3 out of 4 children lost one member of their families, one out of every three children suffered physical violence and two out of three children saw one of their families suffered physical violence. Steps should be taken to rehabilitate these children".

The opportunities offered to the Syrians in the tent cities are explained in the report of the Human Rights Investigation Commission in 2012 as follows: "In the tent cities, various opportunities are provided in line with food, health, security, social activities, entertainment, education, worship, interpreting, cleaning service and other needs. Health services are provided by field hospitals and health centers. If necessary, treatment is provided by referring to hospitals in Hatay or other provinces. So far, nearly 90,000 patient examinations and 180 surgeries have been performed. The vaccination schedules of the children were updated to ensure that they were vaccinated.

As of the review date 17 people lost their lives due to various reasons such as injuries during the events in Syria and in return162 babies were born. There are a total of 2299 students in the tent cities and 147 teachers and a large number of administrators are involved in educational services. There are courses such as sewing, embroidery, handicraft and Turkish

language courses for adults. In order to enable the residents of the tent city to engage in sports activities, sports facilities were established in various branches and the necessary materials were provided. Activities such as chess tournaments and open cinema are also organized as social activities". (http://www.tbmm.gov.tr/komisyon/insanhaklari, 28.12.2012).

As it can be understood from the above description, Turkey is trying to prepare the best facilities, strives to meet all the needs of refugees. During the 2013 budget negotiations, Finance Minister Mehmet Simsek's explanation that Turkey has spent 482 million Turkish lira so far for Syrian refugees is also an indicator for Turkey's efforts in this matter. (http://www.advertorialhaber.com/multecilerin-turkiyeye-maliyeti, 19.12.2012).

CONCLUSION

At first, it seemed that the situation of Syrian refugee is temporal but after all these years of Syrian civil war, it seems that Syrian refugees will stay in Turkey for a longer time. Turkey has to give up the idea that Syrian refugees are temporal in Turkey and therefore create new ideas. Researches that have done by national and international establishments, have provided solution ideas about the possibilities of most of Syrians who are in Turkey will stay here in the predictable future. In these researches that defend that the problem of refugee couldn't be solved with short term policies, it is mooted that institutional arrangements about integration for refugees is necessary. New policies have to be constituted because a part of refugees will stay in Turkey. To solve the refugees' problem which causes the issues in Turkey mentioned above, necessary steps had to be taken and issues affecting the country and its citizens are tried to be resolved with new implemented policies.

Decisions such as placing Syrian asylum seekers in open job positions without destroying the local labor force were put into effect. Foreign Student Information System (YÖBİS) was established and 200 thousand Syrian children living in Turkey and deprived of educational services were registered to schools through this electronic system Despite these arrangements implemented, Turkey still has not a comprehensive strategy for resolving the problem. The effects of Syrians to Turkey are examined in a social, economic, political and security and the basic services view. To analyze the effects of Syrian refugees to Turkey in an analytical view, to determine the strengths and weaknesses of the crisis, and in order to evaluate the internal and external opportunities and threats, SWOT analysis are made.

The weakest aspect of the economic impact is the high cost paid for Syrians. According to the official figures of the AFAD Presidency, Turkey has spent 5.6 billion dollars till now for the Syrian Refugee Crises, one of the most serious humanitarian crises seen by the world

and Turkey. In return to Turkey's every 17 dollars of aid, the support of the international community, including the UN was only $ 1. The aid provided of international organizations and countries compared to Turkey's aid was only 1 in 17. (Oktay, 2014, p. 1). As of 2014, the support of the external world in sharing this cost was $ 200 million. The insufficiency of International financial support constitutes the second weakness of the economic impact of Syrian refugees on Turkey.

The overall impacts of the Syrian refugee problem to Turkey's economy are summarized in the following table:

TABLE 1

Strengths	**Weaknesses**
• The presence of Syrian traders and investors who know the market well and have a trade investment relationship with the Middle East countries	• The high cost of the refugee crises • Insufficient international financial support • High numbers of refugees from the lower income group • High numbers of refugees at low educational level • The cost of Education
Opportunities	**Threats**
At Macro Level • Bringing Syrian capital, investment and commercial connections to Turkey • Foreign capital inflow • Through their business connections traders deliver Turkish goods to the Middle East market (contribution to export) **At Micro Level** • Supplying humanitarian materials from local firms provides vividness to the economy of border provinces • Trade opportunities offered by the port for Syrian investors and the trade potential of some provinces • Contribution of the increase in labor force to investors • Contribution to production of Syrian small operators by transferring their business to Turkey • New economy created by Syrians, bringing economic mobility to provinces	**At Macro Level** • High cost of refugee crisis • Burden of cost on the General Budget • Tax loss due to illegality of enterprises **At Micro Level** • Increase in rental prices in border provinces • Cost of living and inflation increase in border provinces • Increase in illegal small businesses • Unfair competition between Syrian trades and local trades **Risks at Perception Level** • People's perception that the Turkish economy is damaged by Syrians • People's objection to the granting of aid to the Syrians while there are a lot of poor in Turkey

When the effects of Syrians on the labor force are examined in general, it is seen that there is a picture in which risks and opportunities are intertwined as in the economic effects. According to UNHCR data, 42.3 % of the Syrians are working age people aged between 18-

59 years. This data is valuable in terms of the potential of the working age population to contribute to the labor force and constitutes the strength of the Syrians. The right to apply to the Ministry of Labor and Social Security to get a work permit with conditional refugee status to Syrian refugees in Turkey has been given. Working conditions and durations have been ensured. In addition, the possibility of opening a commercial workplace was provided. On the other hand, the fact that Syrians do not have an income generating profession, have a low education level, inadequate regulations regarding work permits and negative opinions about the work permit of the regional people constitutes the weaknesses. When the opportunities that Syrians can provide and the demographic data of Syrians are taken into consideration, they can be employed in business lines such as the agriculture and industry sector, factories, etc., which require mainly unskilled labor force.

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The Smuggling of Military Weapons in the Black Sea Countries

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ABSTRACT: The article deals with one of the most pressing problem of the modern world that is illegal movement of arms across the customs border. The Black Sea countries, due to their territorial location, have enormous opportunities to smuggle weapons from the countries of the European Union, in particular from the Baltic countries. It's a real threat to the national security of the Black Sea region. It leads to the development of the terrorist community that is constantly adapting and making innovations in the sphere of terrorist activities, which in aggregate entails the possibility of the emergence of a non-secure environment in the country. In order to protect citizens, governments must look at emerging trends and try to predict the variants of contraband.

Keywords: smuggling, military weapons, terrorism.

The fight against arms smuggling is one of the most important areas of activity of the customs authorities all over the world. Illegal movement of weapons contributes to the destabilization of the situation in various regions, generates violence and armed conflicts, criminal proceeds from the arms trade are used to finance international terrorism. The public danger of arms smuggling is so high that the conduct of measures to identify, prevent, suppress and disclose this illegal act is within the competence of not only the customs authorities, but also the bodies of the federal security service.

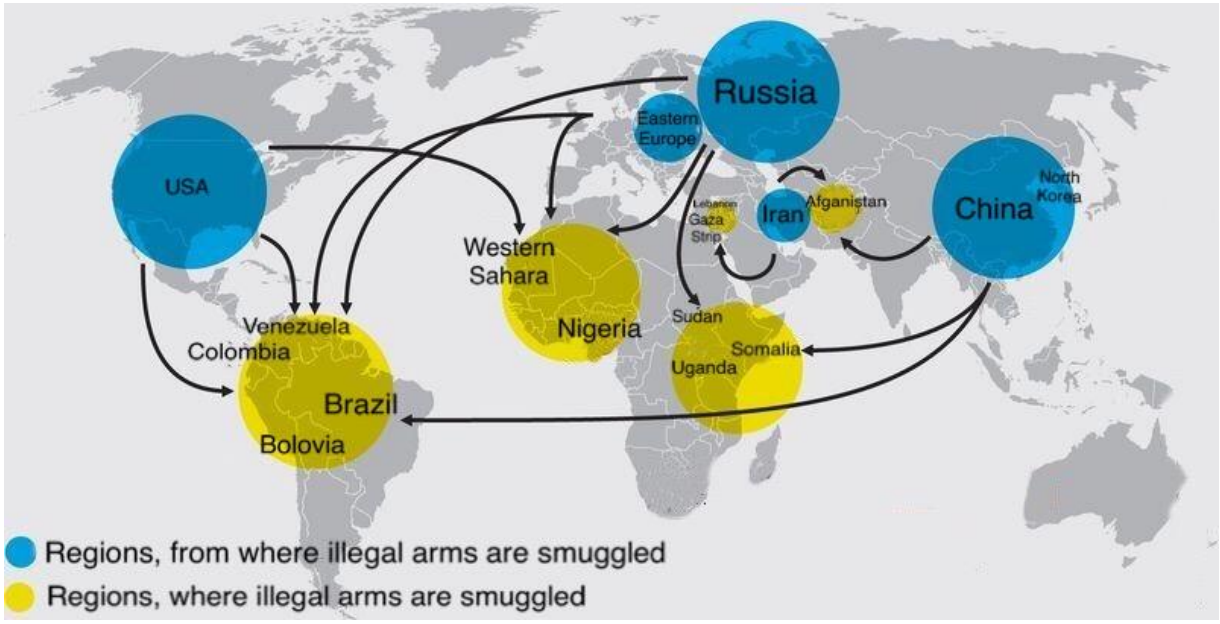
In the modern world criminal organizations and individuals are involved in the illegal manufacturing, possession and trafficking of:

- small arms
- light weapons
- ammunition, parts and components
- explosives (military, commercial, pyrotechnics and improvised/homemade)
- explosives precursors
- improvised explosive devices (parts and components)
- military ordnance (parts and components)
- chemical biological radiological and nuclear (CBRN) materials
- other dangerous substances that could be used as weapons.

Scholars estimate illegal arms transactions amount to over US$1 billion annually. Profit for straw purchaser estimates $500 per firearm.

According to last year's annual report from the International Firearms Anti-Trafficking Organization (IFATO), nearly 90% of the weapons used in domestic conflicts throughout Africa, Eastern Europe, Mexico, and the Middle East originated from Ukraine and Russia.

FIGURE 1
The most important arms smuggling routes



Russia is one of the major arms producers on the planet having about 27% of the world market. The turnover of weapons in the country is strictly ordered; only hunting rifles are on sale.

Russia is also the largest illegal exporter of firearms in the world. Due to a massive stockpile of guns from the Cold War and a huge ongoing production of weapons and ammunition, Russia is thought to have more guns per person than any other country, including the US. Estimates suggest an average of 11.7 guns per person.

It seems that today the Middle East is the main source of illegal weapons in the world, but smuggling flows from the European Union are regularly recorded in Russia.

The hottest part remains the Russian-Ukrainian border, where more than 90% of arms smuggled to the Russian Federation is seized. In 2017, 162 facts of the detention of weapons, ammunition, and explosives were recorded. In Ukraine, the civil war continues, and favorable conditions have been created for the illegal arms trade. According to international experts, they have from three to five million unaccounted trunks on hand.

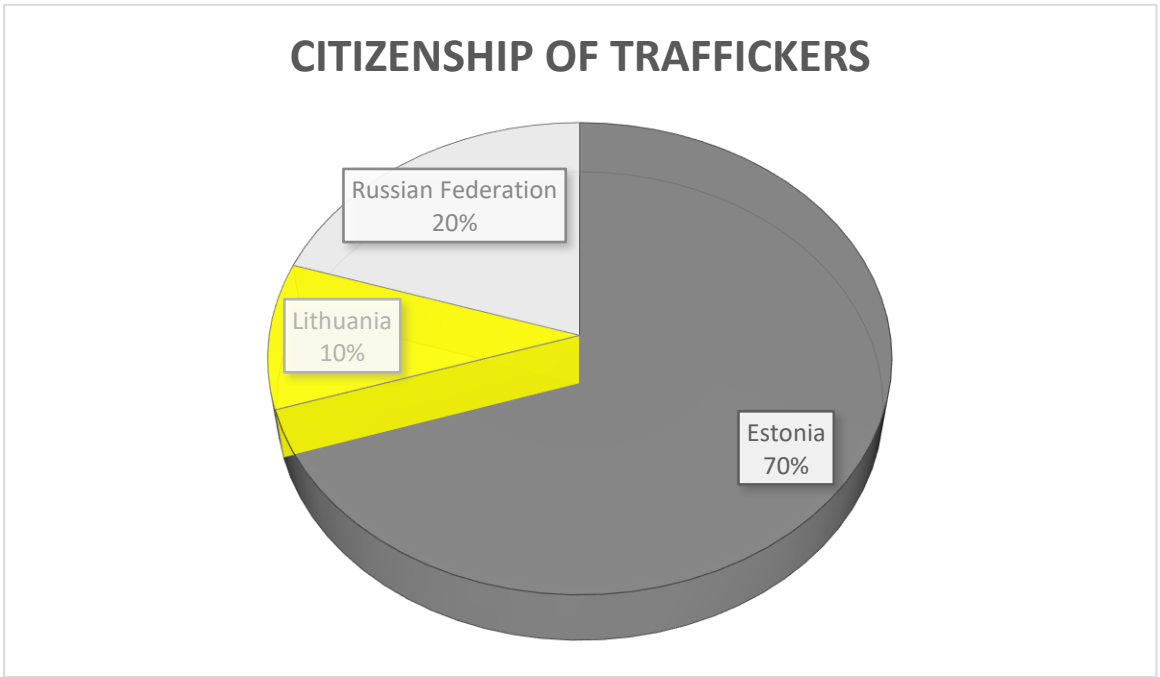
There is a noticeable flow of smuggled weapons from China (via Azerbaijan) - factory and clandestinely manufactured samples are supplied (at reduced prices). Usually criminals have contacts in state structures in the CIS, that complicates the work of border guards and customs officers.

Latvia, Lithuania and Estonia remain major transit points for smuggled weapons from Western Europe to Russia and other CIS countries and Georgia. For arms smuggling criminal groups actively use the channel of sea trade shipping and ports of the Baltic countries. In technological sections of the boats could enter up to 500 guns. The standard "containers" for transport in the Baltic States are also new cars for selling in the dealer centers. In Russia, small batches of weapons are transported by international travelers.

The main feature of Estonian arms smuggling is the relative legality of deliveries to Estonia. There is a Union of defence and all members have the legal right to purchase and bear arms. And often the Estonians recovered from this income — based on fake documents the representatives of the Union of defence sign the contracts for the supply of official weapons manufacturers in the EU, and then they have just to organize the transfer in the neighboring foreign countries.

Estonian authorities reported that identified firearms traffickers were predominantly nationals. Estonian citzens accounted for 70 per cent of identified traffickers, followed by citizens of the Russian Federation (20 per cent) and Lithuania (10 per cent).

FIGURE 2
Citizenship of identified traffickers, Estonia



Georgia is also one of the channels of arms supply to Russia. Criminals acquire weapons in Georgia and transport them to Russia via South Ossetia. Merchants developed a particular scheme to transport arms across the border, they hire taxi drivers for a substantial fee. At the same time, the couriers do not even know what they are carrying, the weapons are disguised as parcels. The smugglers just cross the border legally without any prohibited cargo, and meet the taxi drivers already in arranged place in Russia.

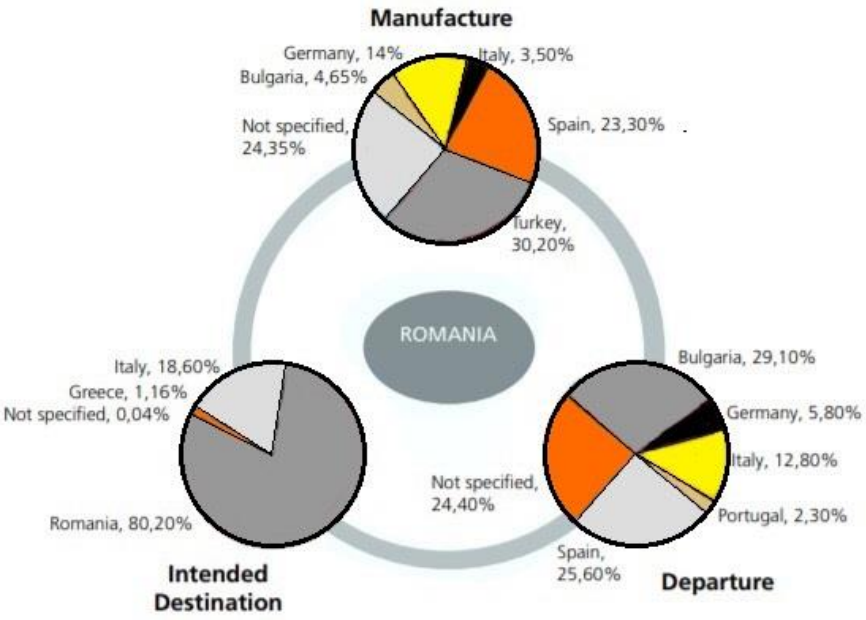
Details of weapons cross the border with the help of legal transport companies — in private parcels with various household items and devices, the components of the weapons mechanisms are carefully hidden from the translucent equipment.

Under the conditions of the Schengen zone, weapons from Ukraine can be distributed almost without restriction.

For Romania, the main source of illicit trafficking in firearms is Bulgaria, where non-lethal firearms, most of them manufactured in Turkey, may be freely purchased by foreign citizens and then illegally introduced in Romania. These firearms can easily be modified (e.g., removing the obturator) for enabling them to expel projectiles. The main documented routes come from Bulgaria to Romania through different terrestrial border crossings: Varna – Vama Veche, Ruse – Giurgiu, Silistra, Calafat, and Corabia. Regarding the trafficking in firearms from France, Germany, Italy and Spain the border crossings are: Bors, Nadlag and Cenad.

FIGURE 3
Trafficking routes identified by reporting authorities, Romania

FIGURE 4
Countries of manufacture, departure and intended destination of illicit weapons for Romania



Prices of the firearms, guns and other weapons are collected from various publicly available sources. The sale price of the weapon is quoted in US dollars.

Average price of AK-47 worldwide $534.

FIGURE 5
AK-47 prices on the Black market worldwide

A possible solution to this problem could be the signing of a single Protocol by all countries. The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition (Firearms Protocol) is the only legally binding instrument to counter the illicit manufacturing and trafficking of firearms at the global level. It was adopted by resolution 55/255 of 31 May 2001 at the fifty-fifth session of the General Assembly of the United Nations and it entered into force on 3 July 2005. The purpose of this Protocol is to promote, facilitate and strengthen cooperation among States parties to prevent, combat and suppress the illicit manufacturing of and trafficking in firearms, their parts and components and ammunition. The Protocol also establishes rules for marking, deactivation of weapons and Licensing [authorization] of import, export and transit of firearms. At the beginning of the programme, 82 countries were Party to the Protocol. To date, the number has increased to 117.

FIGURE 6
Status of ratification of the Firearms Protocol

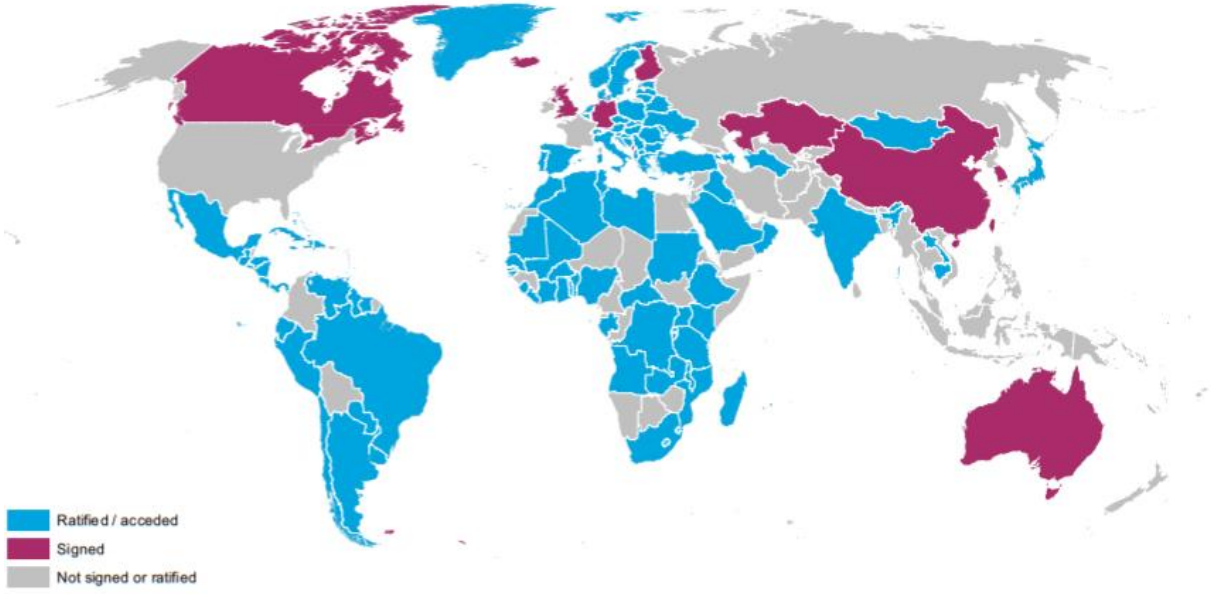
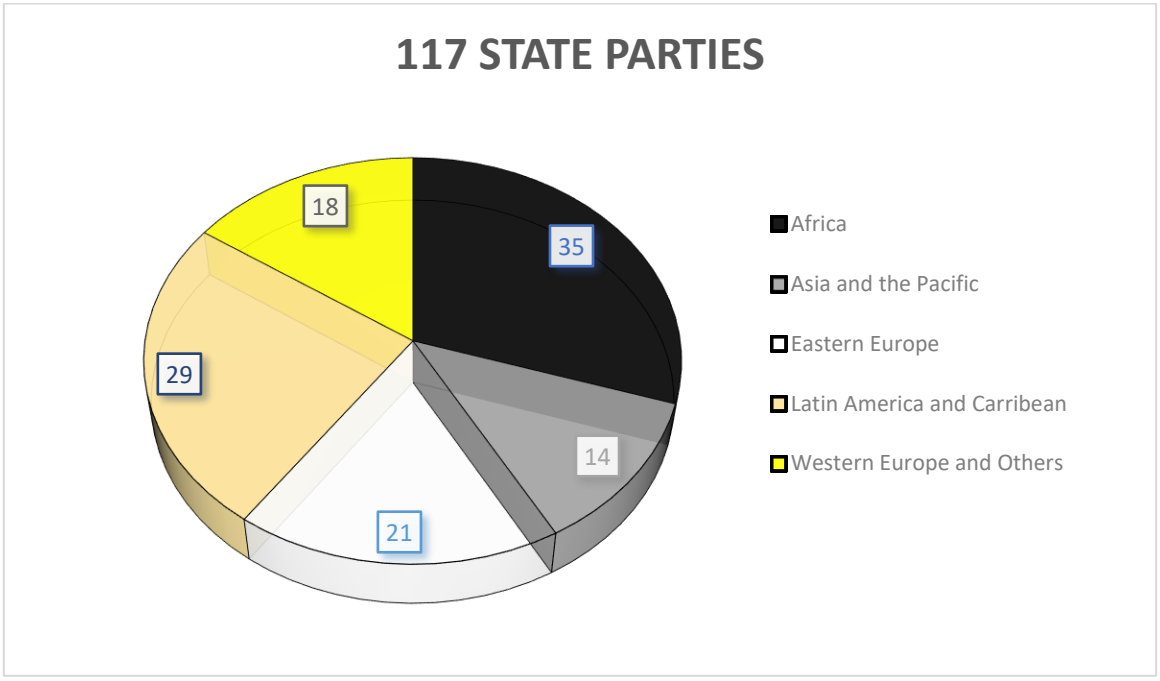


FIGURE 7
Latest accessions to Firearms Protocol

FIGURE 8
Ratification per region



In conclusion, illicit arms trafficking has a General destabilizing effect on the political situation in many regions of the world, contributes to the escalation of local and regional conflicts and increases the ability of terrorist groups to achieve their goals and threaten peace and security. According to studies, the drug trade and the arms trade are increasingly linked. The demand for weapons has contributed to the illicit drug operations. The involvement of ethnic groups in drug trafficking for the purpose of acquiring weapons is increasing.

The only war that must remain in the twenty-first century is the war against crime and international terrorism. But to win it tomorrow, the world must unite its efforts today.

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Patterns and Shifts in Employment and Business Performance Across the Secondary Sector in the EU During 2007-16

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ABSTRACT: The paper looks into the evolution of four business measures (entrepreneurial involvement, employment, productivity, profitability) observed in 21 secondary-sector economic activities (subsectors) across the EU from 2007 to 2016. It econometrically isolates the long-run trends and engage in a number of subsectoral and spatial comparisons that may be useful for policy purposes.

Keywords: time trend, secondary sector activities, entrepreneurial involvement, employment, productivity.

INTRODUCTION

The paper looks into the evolution of four measures (statistics) observed in 21 secondary-sector economic activities, across the 28 EU member-states,[2] from 2007 to 2016, on the basis

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[2] These activities are defined in a uniform manner across the EU (Eurostat, 2008).

of annual business data supplied by Eurostat.[3] The purpose is to report on how the constituent components of the common market economy reacted to (evolved during) the 2008-international financial crisis, the recession, debt crisis, and other events that followed in the course of the time in question.

The four measures consist of: (a) the number of enterprises (N), (b) the number of persons employed (L), (c) the average value added per person employed, as a proxy of productivity (Q/L), and (d) the ratio of gross operating surplus over turnover, as a proxy of profitability (Π); all of which, jointly sketch the sectoral structure, competitiveness and performance features of businesses.[4]

These measures are analyzed via time-series econometrics in order to (i) identify and isolate the long-run trends from the autonomous and medium-term components (Section 1), and (ii) engage in a small number of subsectoral and spatial comparisons (Section 2). The paper closes with the conclusions (Section 3).

THE EMPIRICAL TIME-SERIES APPROACH

The patterns of each economic activity's four measures are econometrically analyzed via a close variant of the well-established functional form described by Smith and Duncan (1944), Chou (1969), Cameron (2005), and others:

$$Y = \Sigma\beta_{0i} + \Sigma\beta_{1i}\times T_i + \Sigma\beta_{2i}\times T_i^2 + \Sigma\beta_{3ij}\times M_{ij} + u, \quad (1)$$

where 'Y' stands for the regressand (i.e., the number of enterprises, the number of persons or one of the two ratios); 'T' stands for time (T=1, 2, 3, etc.) and yields the long-run trend in each EU member-state; 'M' takes categorical form (i.e., consist of zeros and ones) and stands for an exceptional fluctuation (peak or trough) in a member-state;[5] the 'i's denote the number of member-states, the 'j's denote the number of exceptional medium-term periods in a member-state, the 'β's stand for the regressors' coefficients; 'u' is the error term; and each equation is regressed separately (i.e., not as a system). Though the model is simple, the achievement of high goodness-of-fitness results in most cases cannot be overlooked. As a

[3] The structural business statistics for industry employed hereinafter were collected in the context of EU Council Regulation 58/97 (Eurostat, 2015) and were accessed via https://ec.europa.eu/eurostat/data/database in the summer of 2018.

[4] The figures regarding five additional activities (pharmaceutical products/preparation, motor vehicles and trailers, other transport equipment, furniture, other manufacturing), an additional measure (namely, the ratio of gross operating surplus over value added, as a proxy of the share of non-labor contributions), productivity in activity #25, and a few other elements are still reviewed by the supervisor and, hence, not included in the paper. In all likelihood they will be incorporated by October 2019.

[5] By and large they capture concentrations of zeros and ones recovered in a two-stage process, from the residuals of Y regressed on the other regressors; and address, among other things, the issue of conceivable breaks.

rule, Germany is set as reference. Last but not least, to deal with heteroscedastic residuals, OLS regression analyses with robust standard errors are empoyed.

To illustrate with an example, Table 1 provides the results regarding the evolution in the number of enterprises in the manufacture of textiles, which we read as follows: At the outset, Italy and Spain featured the most enterprises (lines 9-10) while Luxembourg and Slovakia the least (line 2). Over time, the number of enterprises:

- increased in Germany, Latvia, the Netherlands, the Rep. of Ireland, Luxembourg (line 17), France, Poland (line 18);
- first decreased then increased in Greece and Spain (lines 12 and 22), Belgium, Portugal, Romania (lines 13 and 21), Croatia, Hungary, the United Kingdom of Great Britain and Northern Ireland (lines 14 and 21), Bulgaria and Lithuania (lines 15 and 21);[6]
- first increased then decreased in the Czech Republic and Slovakia (lines 18-20);
- decreased in Italy (lines 11 and 23);

featuring large positive fluctuations in the Netherlands during 2013-16 (line 26) and large negative fluctuations in Slovakia during 2008-09, and in Poland during 2012-16 (lines 24-25). In the interest of brevity –the paper is supposed to be short (10-12 pages) after all- we skip the presentation and analysis of each and every individual finding regarding the autonomous (initial) components and the mid-term fluctuations apropos the number of firms, employment, productivity, and profitability;[7] and turn to the collective treatment of the respective long-run trend components across the 21 secondary sector activities in the 28 EU member-states.

[6] This is the result of the twice differentiatiable function with respect to time.

[7] The autonomous components offer insights on how a country or subsector of the economy performed at the outset. For instance: Did it feature a large or small number of enterprises or people employed, a high or low level of productivity and profitability? The exceptional medium-term (two-to–three year) elements provide additional insights regarding the special circumstances or developments behind the favorable or unfavorable deviation from the long-run trend pattern in a particular country or sector.

TABLE 1
The evolution of the number of enterprises (N) in the manufacture of textiles across EU member-states, 2007-16

	Regressors	coefficients	p-values
	Autonomous effects		
1	Constant (DE, GR, FR, PL reference)	3,611	0.000
2	LU, SK	-3,735	0.000
3	CY, DK, EE, IE, LV, SI	-3,324	0.000
4	AT, BG, HR, FI, LT	-2,833	0.000
5	HU, NL	-2,183	0.000
6	BE, CZ, RO	-1,651	0.000
7	SE	-1,339	0.000
8	PT, GB	660	0.000
9	ES	4,245	0.000
10	IT	16,769	0.000
	Time trend		
11	IT	-1150	0.000
12	GR, ES	-502	0.000
13	BE, PT, RO	-173	0.000
14	HR, HU, GB	-113	0.000
15	BG, LT	-85	0.000
16	AT, CY, DK, EE, FI, SI, SE	-8	0.037
17	DE, IE, LU, LV, NL	27	0.000
18	CZ, FR, PL	274	0.000
19	SK	368	0.000
	Time trend squared (to capture the rate of change)		
20	CZ, SK	-23	0.000
21	BE, BG, GB, HR, FI, HU, IE, LT, LU, PT, RO	9	0.000
22	GR, ES	31	0.000
23	IT	49	0.000
	Notable biennial or longer fluctuations		
24	SK 2008-2009	-481	0.000
25	PL 2012-2016	-992	0.000
26	NL 2013-2016	442	0.000
	Observations	266	
	Model fitness (R^2)	99.78%	

Notes: No data on MT. Regressions are estimated with robust standard errors so as to address issues of heterogeneity and lack of normality. P-values are supplied as in analyses that rely on samples. Four observations regarding a first or last year are missing. When the their (missing) residuals are replaced by the residual of the nearest observations, then a unit-root test for the residuals can be performed. It turns out that the residuals are stationary at the 1% level.

Source: Eurostat, own calculations.

THE LONG-RUN PATTERNS

According to the long-run trends recovered via regressions similar to the one discussed above, there existed considerable heterogeneity in the evolution of:

- N: In eight activities the majority of countries exhibited a decrease.[8] In five activities the majority of countries exhibited an increase.[9] In two activities the majority exhibited a trough followed by recovery.[10] (The extrema often occurred in different years.) In two activities the majority may have exhibited an increase.[11] (The particular results are associated with p-values in excess of 1%.) Likewise, in another activity the majority may have exhibited a decrease.[12] In one activity about 30% of the countries exhibited an increase, while an equal number exhibited a trough followed by recovery;[13] and in another activity about 40% of the countries exhibited an increase, while an equal number exhibited a decrease.[14] (See Table 2.)
- L: In ten activities the majority of countries exhibited a trough followed by recovery.[15] In six activities the majority exhibited a decrease.[16] In two activities the majority may have exhibited an increase.[17] In one activity about 30% of the countries may have exhibited a decrease, while an equal number supplied very few or no observations;[18] and in another activity about 45% of the countries supplied very few or no observations.[19] (See Table 3.)

[8] In activity #17 seventeen counties. In each of activities #23 and 26 twelve countries. In each of activities #18, 20, 25 and 27 ten counties. In activity #28 nine countries.
[9] In activity #35 eighteen countries. In activity #33 sixteen countries. In each of activities #12 and 24 fifteen countries. In activity #14 nine countries.
[10] In activity #11 eleven countries. In activity #13 ten countries.
[11] In activity #10 twenty-three countries. In activity #15 seven countries.
[12] In activity #22 fourteen countries.
[13] In activity #16 eight countries in each case.
[14] In activity #19 eleven countries in each case.
[15] In activity #13 twenty countries. In activity #14 nineteen countries. In activity #16 sixteen countries. In activity #25 fifteen countries. In each of activities #17 and 23 thirteen countries. In each of activities #10 and 20 twelve countries. In activity #35 eleven countries. In activity #22 ten countries.
[16] In activity #18 twenty-three countries. In each of activities #11, 15, and 28 fifteen countries. In activity #26 thirteen countries. In activity #27 twelve countries.
[17] In activity #24 twenty countries. In activity #33 ten countries.
[18] In activity #19 eight countries in each case.
[19] In activity #12 thirteen countries.

TABLE 2
The evolution in the number of enterprises (N) in selected secondary sector activities across EU member-states, 2007-16: The trend

Subsector (ordered by NACE code)		AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
10	Food products	+	+	+	\	+	+	+	+	+	+	+	+	+	+	+	+	+	+	\	+	+	+	+	+	\	+	V	V
11	Beverages	/	V	/	—	/	V	—	V	V	V	V	V	V	—	\	/	/	—	—	/	—	V	V	/	V	/	/	/
12	Tobacco products	—	—	\	/	/	/	—	/	/	/	/	/	V	\	\	/	/	—	/	/	/	/	V	—	\	\	—	/
13	Textiles	—	V	V	—	Λ	/	—	—	V	—	/	V	V	V	V	/	\	V	/	/		/	/	V	V	—	—	Λ
14	Wearing apparel	—	—	V	/	/	/	—	—	V	—	/	V	\	\	V	/	\	V	—	◦	—	/	V	V	V	/	/	/
15	Leather etc.	+	\	+	+	\	/	+	+	V	\	V	/	\	\	\	/	V	/		+		/	V	V	V	/	+	Λ
16	Wood, cork, straw products	V	/	—	/	—	/	—	/	\	\	/	V	\	V	V	—	\	V	—	/	—	/	V	V	V	\	/	—
17	Paper. paper products	\	\	V	\	Λ	\	\	\	/	\	\	V	\	\	\	/	\	V	\	/	\	V	Λ	\	V	\	\	Λ
18	Printing, reproduction of recorded media	\	\	Λ	+	V	\	\	+	\	\	+	\	V	\	V	Λ	\	/	+	+	+	Λ	V	V	V	\	+	/
19	Coke, refined petroleum products	\	\	\		\	\	—	\	/	/	\	\	/	\	/		\	—	/	/		/	/	/	/	\	/	
20	Chemicals	\	\	/	\	Λ	Λ	\	/	\	\	V	V	V	V	\	Λ	\	/	\	/	\	/	V	V	V	/	/	/
22	Rubber, plastic	—	\	—	+	—	—	—	—	\	—	V	V	\	\	V	Λ	\	—	—	—	—	/	V	—	\	—	—	Λ
23	Other non-metallic mineral products	V	+	\	V	Λ	/	\	V	\	\	+	\	\	\	\	Λ	\	/	/	V	\	/	V	\	V	\	+	/
24	Basic metals	—	—	\	/	/	/	—	/	/	/	/	/	V	\	\	/	/	—	/	/	/	/	V	—	\	\	—	/
25	Fabricated metal products	\	—	\	—	/	/	\	—	\	\	—	V	\	\	V	Λ	\	/	—	—	—	/	/	\	V	\	—	/
26	Computers, electronic-optical prod.	V	V	V	\	\	\	\	\	\	V	V	V	V	\	V	Λ	\	\	\	+	\	Λ	/	\	V	V	V	/
27	Electrical equipment	+	\	—	—	Λ	Λ	—	+	\	—	\	V	\	\	\	Λ	\	—	—	+	—	Λ	\	V	\	—	\	Λ
28	Machinery, equip. not classified elsewhere	V	\	V	—	\	—	—	V	V	\	V	V	\	\	V	Λ	\	/	—	/	—	Λ	/	\	\	\	V	Λ
32	Other manufacturing	Λ	/	/	+	/	/	+	/	V	/	+	/	V	/	Λ	/	/	/	+	/	+	/	V	V	/	/	/	Λ
33	Repair/installation of machinery & equip.	/	/	/	+	/	/	Λ	+	Λ	◦	/	/	V	/	Λ	/	/	/	+	/	\	/	/	/	/	V	/	/
35	Electricity, gas, steam, air conditioning	+	+	+	\	+	+	+	+	+	+	+	+	+	+	+	+	+	+	\	+	+	+	+	+	\	+	V	V

Key for symbols:
Results associated with p-value ≤ 1
Peak followed by recession: Λ Upward trend: /
Trough followed by recovery: V Downward trend: \
Results associated with p-value > 1
Upward trend: + Other ambivalent result reviewed by the supervisor: ◦
Downward trend: — (To be reported in the revised paper.)
No data: (blank)

Source: Eurostat, own calculations.

TABLE 3
The evolution of employment (L) in selected secondary sector activities across the EU member-states, 2007-16: The trend

Subsector (ordered by NACE code)		AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
10	Food products	/	+	V	+	V	/	V	+	V	+	+	V	V	—	V	◦	V	V	/	+	/	+	V	V	V	+	—	+
11	Beverages	—	—	\	\	V	\	—	V	V	\	/	\	\	\	\	—	V	\	\	\	\	V	V	—	V	\	\	\
12	Tobacco products		\	\			\	V		\			\	V	V	/		V			V		\	V	V	V			
13	Textiles	V	V	V	\	V	V	V	V	V	\	V	\	V	V	V	\	\	V		V		V	V	V	V	\	V	V
14	Wearing apparel	\	V	V	V	V	V	V	V	V	\	V	\	V	\	V	V	V	V		\	V	\	\	V	\	V	V	V
15	Leather etc.	\	\	\	\	\	\	V	\	V	\	\	/	V	/	V	\	V	\		\		\	V	V	V	\	\	V
16	Wood, cork, straw products	V	V	V	—	\	—	—	V	\	V	\	V	\	V	V	V	\	V	—	V	—	\	V	V	V	V	V	+
17	Paper. paper products	V	\	V	\	V	+	\	\	V	V	V	V	\	V	V	/	\	/		\	V	V	/	\	V	\	V	\
18	Printing, reproduction of recorded media	\	\	—	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	\	—	\	V	\	\	\	/	V
19	Coke, refined petroleum products	—	—	V		\	/		—	/			\	V	/	\		\		—	—		\	V	—	V	—	—	
20	Chemicals	/	+	V	+	V	/	/	+	V	V	V	\	V	\	V	V	\	\	◦	◦	+	+	V	V	\	V	V	+
22	Rubber, plastic	/	\	V	\	V	/	—	\	V	—	V	—	\	V	—	V	\	V		V		V	◦	V	/	\	—	/
23	Other non-metallic mineral products	V	V	V	\	V	\	+	V	V	\	\	\	+	V	V	V	\	V	\	V	\	\	V	\	V	+	\	\
24	Basic metals	+	+	+	\	+	+	+	◦	\	+	\	\	+	+	+	+	\	+		+	+	+	+	+	—	+	+	+
25	Fabricated metal products	/	\	—	—	V	/	—	V	V	V	\	V	\	V	V	V	V	V	—	\	—	V	/	V	V	V	V	/
26	Computers, electronic-optical prod.	V	\	V	\	V	V	+	\	V	\	\	\	\	V	\	V	\	\		+		\	V	V	V	Λ	\	\
27	Electrical equipment	/	Λ	V	\	V	Λ	\	Λ	V	\	\	\	\	V	V	V	\	/	\	\	\	Λ	V	\	V	\	V	V
28	Machinery, equip. not classified elsewhere	/	\	V	\	\	\	\	\	\	\	\	\	\	V	/	V	V	\	\	\		V	V	V	V	V	\	V
33	Repair/installation of machinery & equip.	Λ	/	V	+	/	/	+	+	V	Λ	+	+	V	+	Λ	/	+	+	+	+	/	/	V	/	V	V	/	/
35	Electricity, gas, steam, air conditioning	Λ	/	V	Λ	V	V	V	V	\	Λ	/	V	V	\	V	V	/	\	/	V		/	Λ	V	\	/	Λ	\

Key for symbols, source: See Table 2.

TABLE 4
The evolution of productivity (Q/L) in selected secondary sector activities across EU member-states, 2007-16

Subsector (ordered by NACE code)		AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
10	Food products	\	—	\	\	\	\	—	\	\	\	—	V	\	\	\	/	—	\	\	\		\	\	\	\	—	\	◦
11	Beverages	/	/	—	/	/	/	/	\	/	\	—	/	/	/	Λ	V	V	V		/	/	/	\	/	/	/	/	—
12	Tobacco products		+	+			Λ	/		/				+	+	+		\						+	/	Λ			
13	Textiles	/	/	/	\	Λ	/	/	/	/	/	/	/	\	/	Λ	Λ	/	Λ		/		/	/	/	/	/	/	/
14	Wearing apparel	/	V	/	\	/	/	Λ	/	—	Λ	\	V	\	V	Λ	Λ	/	/		V	\	\	/	/	/	/	/	/
15	Leather etc.	Λ	Λ	+	\	/	/	/	/	Λ	/	/	/	—	+	/	Λ	/	/		Λ		Λ	/	/	/	/	/	Λ
16	Wood, cork, straw products	V	V	—	V	V	/	V	/	V	/	/	/	\	/	V	/	V	/	\	/	/	/	/	V	Λ	/	/	—
17	Paper. paper products	/	+	/	+	/	+	+	/	/	/	/	/	+	/	Λ	V	/	/		/	\	/	/	/	/	/	/	/
18	Printing, reproduction of recorded media	+	/	V	\	/	/	+	/	\	+	+	V	\	/	+	/	V	/	\	/	/	/	/	/	+	/	/	V
19	Coke, refined petroleum products	V	/			\	\		/	V			/	V		\		V			\		V	/	V		/	\	
20	Chemicals	V	/	/	+	+	/	/	+	/	/	V	V	V	V	V	/	/	+	/	\	V	V	+	V	/	/	/	+
22	Rubber, plastic	/	V	/	V	/	/	—	/	/	/	/	/	—	V	/	/	/	/		/		/	/	/	/	/	/	/
23	Other non-metallic mineral products	V	V	V	V	+	/	V	V	V	V	+	V	V	V	V	V	V	V	V	/	V	V	V	+	+	/	V	V
24	Basic metals	Λ	Λ	Λ	Λ	/	Λ	Λ	/	/	Λ	Λ	/	Λ	+	/	/	Λ	/	V	+	/	Λ	/	/	Λ	Λ	Λ	Λ
25	Fabricated metal products																												
26	Computers, electronic-optical prod.	/	V	/	Λ	/	V	/	Λ	—	V	/	/	Λ	V	/	\	/	/		/		/	/	V	—	/	/	/
27	Electrical equipment	/	Λ	/	\	Λ	/	/	/	V	/	/	/	\	V	V	/	/	/	/	/	/	V	/	\	/	/	/	Λ
28	Machinery, equip. not classified elsewhere	/	/	/	Λ	Λ	/	\	/	/	/	/	/	\	/	Λ	/	/	/	/	Λ		/	\	/	/	/	/	/
33	Repair/installation of machinery & equip.	Λ	/	/	Λ	/	/	/	/	—	V	/	/	Λ	—	V	/	V	/	V	—	/	Λ	/	—	/	Λ	/	/
35	Electricity, gas, steam, air conditioning	+	\	Λ	V	Λ	Λ	Λ	/	/	+	/	+	/	/	+	Λ	Λ	Λ	V	Λ		—	/	Λ	Λ	Λ	Λ	Λ

Key for symbols, source: See Table 2.

TABLE 5
The evolution of profitability (Π) in selected secondary sector activities across EU member-states, 2007-16

Subsector (ordered by NACE code)		AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
10	Food products	V	V	V	\	+	+	—	+	\	+	+	+	—	\	+	/	+	+	V	V		—	\	V	Λ	—	/	Λ
11	Beverages	+	/	—	V	—	+	Λ	—	\	Λ	Λ	\	V	/	V	/	+	/	+	V		/	\	+	\	/	\	+
12	Tobacco products		/	\			/	\		\		Λ	\	\	\	\		\					\	\	/	Λ			
13	Textiles	—	/	/	V	Λ	/	V	/	/	V	/	/	/	—	Λ	Λ	/	Λ		—		/	—	V	Λ	/	V	Λ
14	Wearing apparel	\	/	V	\	V	\	Λ	/	\	/	V	\	\	V	Λ	/	/	/		\	Λ	\	\	V	Λ	/	/	Λ
15	Leather etc.	Λ	V	+	V	/	+	+	+	Λ	Λ	/	+	—	—	Λ	Λ	/	+		Λ		Λ	+	+	Λ	—	+	Λ
16	Wood, cork, straw products	V	\	V	V	V	+	/	+	V	+	V	/	\	/	+	+	V	+	\	+	Λ	+	V	V	Λ	+	V	/
17	Paper. paper products	+	\	/	V	V	\	/	+	+	/	V	Λ	\	/	/	/	/	/		\	\	\	\	\		+	+	/
18	Printing, reproduction of recorded media	\	+	V	V	/	+	Λ	\	\	V	V	/	\	\	+	Λ	/	+	\	\	/	V	V	+	+	V	+	+
19	Coke, refined petroleum products	V	/			V	\		/	V		\	V	V		\		V			\		V	V	V		\	\	
20	Chemicals	V	/	V	V	Λ	Λ	/	V	/	—	V	—	—	V	V	Λ	/	V	/	\	V	V	V	V	Λ	V	/	/
22	Rubber, plastic	\	V	/	V	—	—	Λ	/	/	V	/	/	\	V	Λ	/	/	/		—		/	◦	/	/	/	V	/
23	Other non-metallic mineral products	V	V	V	V	V	V	V	V	V	V	V	V	\	V	V	V	V	V	V	/	V	V	V	V	\	+	V	V
24	Basic metals	V	V	/	Λ	/	V	+	V	V	V	+	+	V	/	V	/	+	+	+	V	/	/	V	V	V	+	+	+
25	Fabricated metal products	V	V	V	V	V	+	+	+	V	V	V	/	+	V	+	/	V	/	V	V	+	V	+	V	+	/	V	/
26	Computers, electronic-optical prod.	/	/	/	—	Λ	/	Λ	\	/	\	/	Λ	Λ	V	/	\	/	/		/		\	—	V	—	/	/	/
27	Electrical equipment	\	—	\	—	Λ	—	V	Λ	V	—	V	Λ	\	V	V	/	Λ	/	/	/	/	—	\	\	\	—	/	Λ
28	Machinery, equip. not classified elsewhere	\	/	V	Λ	/	—	Λ	/	—	\	\	Λ	—	/	Λ	/	/	/	—	Λ		/	\	/	Λ	/	V	—
33	Repair/installation of machinery & equip.	\	+	\	Λ	\	+	V	+	\	V	V	Λ	Λ	\	+	V	◦	+	V	\	+	Λ	\	V	+	+	Λ	
35	Electricity, gas, steam, air conditioning	V	+	/	/	V	+	+	/	\	+	/	\	\	/	Λ	/	Λ	V	V	V		/	/	+	/	Λ	V	V

Key for symbols, source: See Table 2.

- Q/L: In thirteen activities the majority of counties exhibited an increase.[38] In two activities the majority exhibited a peak followed by recession.[39] In one activity the majority exhibited a trough followed by recovery;[40] in one sector the majority exhibited a decrease;[41] and in two activities the majority supplied very few or no observations.[42] (See Table 4.)
- Π: In five activities the majority of countries exhibited a trough followed by recovery.[43] In five activities the majority exhibited an increase,[44] and in three activities the majority may have exhibited an increase.[45] In one activity about 30% of the countries exhibited an increase, while an equal number exhibited a peak followed by recession;[46] in another activity about 20% of the countries exhibited an increase, while an equal number may have exhibited an increase;[47] in an additional activity about 20% of the countries exhibited an increase, while an equal number may have exhibited an increase, and an equal number exhibited a decrease.[48] Last but not least, in two activities the majority supplied very few or no observations.[49] (See Table 5.)

Reorganizing this information reveals that by and large:

- In eleven activities (namely #10, 13, 14, 16-18, 22, 25, 27, 28 and 33) the numbers of enterprises and employed people across EU member-states moved in the same direction,[50] in four activities (namely #12, 15, 23 and 24) the said numbers moved in opposite directions, and in five activities (namely, #11, 19, 20, 26, 35) they moved in an intermediate manner.
- In six activities (namely, #10, 15, 24, 27, 33, and 35) the numbers of enterprises and profitability across EU member-states moved in the same direction, in five activities

[38] In activity #22 twenty-one countries. In each of activities #13 and 28 twenty counties. In activity #17 nineteen countries. In activity #27 eighteen countries. In activity #11seventeen countries. In each of activities #15, 26 and 33 fifteen countries. In each of activities #16 and 18 fourteen countries. In activity #14 thirteen countries. In activity #20 twelve countries.
[39] In activity #24 fifteen countries. In activity #35 thirteen countries.
[40] In activity #23 twenty-one countries.
[41] In activity #10 nineteen countries.
[42] In activity #12 sixteen countries. In activity #19 twelve countries.
[43] In activity #23 twenty-four countries. In activity #25 fifteen countries. In activity #20 thirteen countries. In activity #24 twelve countries. In activity #16 ten countries.
[44] In each of activities #22 and 26 thirteen. In activity #13 eleven countries. In activities 28 ten countries. In each of activities #17 and 35 nine countries.
[45] In activity #10 nine countries. In each of activities #18 and 33 eight countries.
[46] In activity 15 nine countries in each case.
[47] In activity #11 six countries in each case.
[48] In activity 27 six countries in each case.
[49] In activity #12 thirteen countries. In activity #19 eleven countries.
[50] I.e., both increased or decreased throughout the period or peaked (reached bottom) simultaneously or in successive years.

(namely, #14, 17, 19, 22, and 26) the two moved in opposite directions, and in nine activities (namely, #11, 12, 13, 16, 18, 20, 22, 25, and 28) they moved in an intermediate manner.

- In three activities (namely, #20, 24, and 33) the numbers of employed people and productivity across EU member-states moved in the same direction, in thirteen activities (namely, #10-18, 26-28, and 35) the two moved in opposite directions, and in four activities (namely, #19, 22, 23, and 25) the two moved in an intermediate manner. (See Table 6.)

TABLE 6
Trends across the EU countries, 2007-16

Subsector (ordered by NACE code)		N & Π direction		L & Q/L direction		N & L direction	
		same	opposite	same	opposite	same	opposite
10	Food products	10	3	11	7	3	12
11	Beverages	8	8	6	6	4	13
12	Tobacco products	3	5	5	6	1	4
13	Textiles	7	3	6	6	1	5
14	Wearing apparel	8	1	5	9	1	5
15	Leather etc.	8	13	10	3	3	9
16	Wood, cork, straw products	13	5	7	6	2	6
17	Paper, paper products	12	2	7	11	3	10
18	Printing, reproduction of rec. m.	11	7	9	9	6	18
19	Coke, refined petroleum prod.	8	8	3	5	5	5
20	Chemicals	6	7	7	6	6	3
22	Rubber, plastic	9	5	6	8	7	7
23	Other non-metallic mineral pr.	7	10	3	3	4	3
24	Basic metals	9	15	10	6	9	2
25	Fabricated metal products	12	2	4	5	0	0
26	Computers, electronic-optical pr.	7	4	4	6	4	8
27	Electrical equipment	10	2	10	6	7	9
28	Machinery. equip. n. c. e.	8	2	7	7	3	10
33	Repair/installation of machin. etc.	21	0	8	5	13	5
35	Electricity, gas, steam, air cond.	6	6	13	2	3	10

Source: See Table 2.

- In eighteen member-states (namely, Austria, Belgium, Bulgaria, Czech Rep., Denmark, Estonia, Finland, France, Greece, Italy, Luxembourg, Malta, Poland, Portugal, Romania, Spain, Sweden, United Kingdom) the sectors in which the numbers of enterprises and of employed people moved in the same direction outnumbered the sectors in which the two moved in opposite directions. In five EU

member-states (namely, Latvia, Lithuania, Rep. of Ireland, Slovakia, Slovenia) the sectors in which the numbers of enterprises and employed people moved in opposite directions outnumbered the sectors in which the two moved in the same direction. In the remaining five member-states the number of sectors in which the numbers of enterprises and profitability moved in the same direction was about the same as the number of sectors in which the two moved in opposite directions.

- In nine EU member-states (namely, Austria, Cyprus, France, Germany, Greece, Malta, Poland, Rep. of Ireland, Slovakia) the sectors in which the numbers of enterprises and profitability moved in the same direction outnumbered the sectors in which the two moved in opposite directions. In seven member-states (namely, Belgium, Denmark, Italy, Latvia, Spain, Sweden, United Kingdom) the sectors in which the numbers of enterprises and profitability moved in opposite directions outnumbered the sectors in which the two moved in the same direction. In the remaining twelve member-states the number of sectors in which the numbers of enterprises and profitability moved in the same direction was about the same as the number of sectors in which the two moved in opposite directions.
- In three member-states (namely, Cyprus, Greece, Poland) the sectors in which the numbers of employed people and productivity moved in the same direction outnumbered the sectors in which the two moved in opposite directions. In sixteen EU member-states (namely, Belgium, Bulgaria, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, Malta, Netherlands, Portugal, Romania, Spain, Sweden, United Kingdom) the sectors in which the numbers of employed people and productivity moved in opposite directions outnumbered the sectors in which the two moved in the same direction. (See Table 7.) (However, the desirable situation of a simultaneous employment and productivity increase throughout the period in question was rather rare, less than 4% of all cases. See Table 8.)

In the remaining nine member-states the number of sectors in which employment figures and productivity moved in the same direction was about the same as the number of sectors in which the two moved in opposite directions.

TABLE 7
Trends across activities, 2007-16

Country	N & L direction		N & Π direction		L & Q/L direction	
	same	opposite	same	opposite	same	opposite
AT	8	6	5	2	3	4
BE	12	2	4	7	2	8
BG	5	3	5	5	1	3
CY	8	7	5	1	6	3
CZ	6	2	5	5	3	3
DE	6	7	13	3	5	9
DK	9	5	2	6	5	5
EE	7	2	6	7	2	7
ES	6	2	2	5	1	4
FI	10	0	4	3	2	7
FR	6	4	5	0	2	9
GB	6	2	3	5	3	7
GR	9	1	9	4	6	3
HR	5	5	5	6	4	4
HU	3	4	3	4	5	4
IE	3	7	8	2	3	2
IT	13	1	4	9	1	6
LT	5	7	6	5	4	6
LU	7	4	3	4	2	3
LV	5	7	4	6	3	7
MT	8	2	4	2	2	4
NL	6	6	5	4	2	5
PL	6	0	6	4	3	1
PT	5	3	3	3	3	6
RO	6	2	3	3	1	5
SE	7	5	5	11	1	10
SI	3	5	5	5	5	5
SK	3	7	9	1	5	4

Source: See Table 2.

TABLE 8
Trend increases in employment and productivity, 2007-16

Subsectors	Countries
15	GB
17	LT, PL
18	SI
20	DE, DK
22	AT, DE, RO, SK
27	AT, LT
28	AT
33	BE, CZ, DE, IE, MT, SI, SK
35	FR

Source: See Table 2.

CONCLUSIONS

The paper econometrically identifies the long-run trends during 2007-16, in a good number of secondary sector industries across the EU member-states; and finds considerable heterogeneity in entrepreneurial involvement, employment, productivity, and profitability patterns across both countries and industrial activities. Interestingly, in thirteen activities the majority of countries exhibited an increase in productivity. The other long-run patterns regarding the four business performance measures considered in the paper generally involved fewer activities. However, the trends regarding the numbers of employed people and the numbers of enterprises (i.e., as industries became more competitive or oligopolistic) by and large were in the same direction both in terms of activities across countries and in terms of countries across activities. At the same time, the trends regarding the numbers of employed people and productivity were by and large in opposite directions, both in terms of activities across countries and of countries across activities. The fortunate case of both increasing over time was rather rare. A closer look at the policies employed and circumstances in each of these cases, may be useful to agents and policy planners in these and other industries across the EU. A longer version of the paper will incorporate the findings regarding the mid-term fluctuations and the lessons learned from this kind of analysis.

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A Quantitative Analysis of Agricultural Production in Greece, 2004-2016

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ABSTRACT: The paper looks into Greece's agricultural production in terms of labor, land, capital, energy and other inputs at the subnational level, across four regions (Thessaly, north, west, and the rest of Greece), on the basis of 52 annual observations running from 2004 to 2016, supplied by the EU's Farm Accountancy Data Network. It charts the evolution of the main variables and of productivity, and carries out Granger causality tests on all inputs in each region, and econometric analyses to estimate the impact of the said inputs and the magnitude of entrepreneurship, technology and impact of the factors not considered in the regression (multi-factor productivity). Alternative specifications are considered in order to deal with stationarity: three variants (pooled, fixed and random effects) of (i) a detrended linear log-log model, (ii) a linear log-log model with a time trend, (iii) a linear model based on first differences of input and output logarithms (all in the conventional Cobb-Douglas context), and (iv) a linear model based on first differences (irreconcilable with the conventional Cobb-Douglas setting). To deal with heteroscedasticity, the analyses are carried out with robust standard errors, and to ensure regressor independence all regressors are rendered uncorrelated to each other. The results suggest that multi-factor productivity varies across space; and that labor and energy constitute the main explanatory factors.

Keywords: Cobb-Douglass, agricultural production, productivity, regional analysis, stationarity in time series.

INTRODUCTION

The purpose of the paper is to study the economics of production in the agricultural sector in Greece across four regions (north Greece, west Greece, Thessaly, the rest of Greece), a few years prior to the international financial and economic crisis and during the country's long recession, namely from 2004 to 2016, on the basis of data obtained from the European Commission's Farm Accountancy Data Network. The sample is quite reasonable involving, for instance, 4,253 (4,254) farms representing 390,320 (347,339) farms in 2004 (2014).

Similar issues have been studied and analyses carried out in a number of countries (e.g., Bhatt, 2014; Chisasa and Makina, 2015; Güvercin, 2018), while many more focus on individual subsectors, products, regions or subregions. As a result, the paper is part of an identifiable strand in economic literature.

It is organized as follows: Chapter 1 describes the data and in the process presents some easy-to-compute figures. Chapter 2 discusses modeling issues for a more sophisticated analysis, namely the econometric estimation of the sector's production function. Chapter 3 supplies the empirical results; and Chapter 4 provides the conclusions.

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INITIAL FINDINGS

The descriptive statistics of the data are provided in Table 1, and suggest that during the time in question, on average, holdings in: (1) The north part of the country (running from West Macedonia to West Thrace, along with the islands of Thasos and Samothraki) featured more capital in the form of machinery (K_2), hectares (T_b), a higher use of energy (E), a higher value of livestock, as well as costs for feeds, seeds, fertilizers, and such inputs. (2) The west part of the country (spanning Epiros, the Ionian islands and the Peloponnese) were associated with higher valued land. (3) Thessaly (in central Greece) and north Greece provided more output (Q). (4) The rest of Greece (i.e., the mainland south of Epiros and Thessaly and north of the Peloponnese, along with Crete and the other Aegean islands) relied on more labor (L, in terms of man-hours), used more livestock (in terms of heads), capital stock in the form of buildings (K_1), and carried out more investments in buildings and machinery.

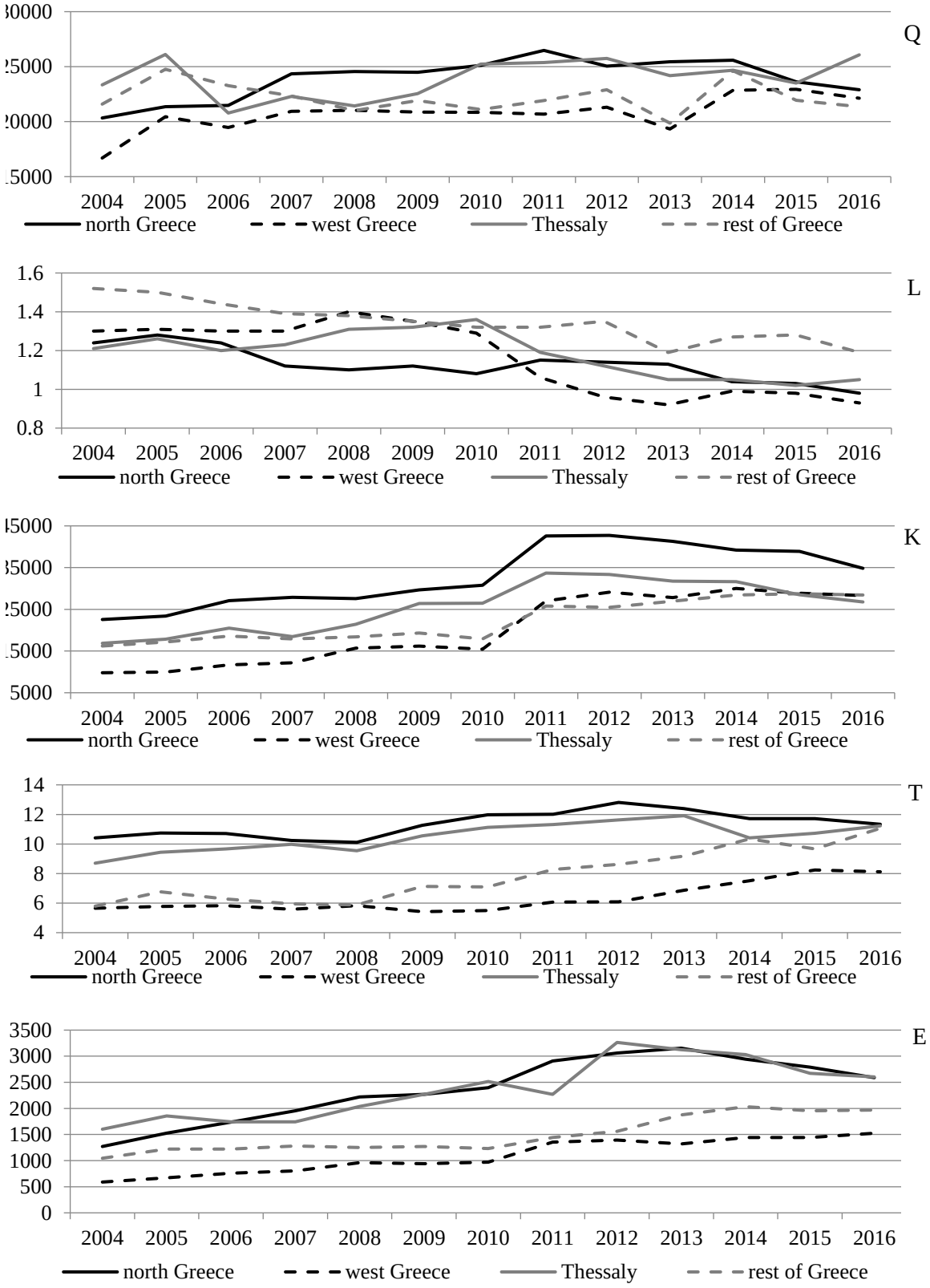
TABLE 1
Descriptive statistics of agricultural production in Greece, 2004-16
(average holding, annual data)

Variables	north country [i]		west country [ii]		Thessaly		Rest of Greece	
	mean	std.dev	mean	std.dev	mean	std.dev	mean	std.de
1. Output (Q) in €	23904	1864	20731	1627	23949	1785	22201	140
2. Labor (L) in full-time person equivalent (FTPE)	1.13	0.09	1.16	0.19	1.18	0.12	1.35	0.1
3. Terrain (T)								
a. Value in €	51672	9370	77158	19999	68001	5196	73184	960
b. Utilized area in hectares	11.31	0.85	6.34	1.00	10.48	0.97	7.85	1.8
c. Value per hectare: (a)/(b)	4547	690.0	12036	1610.9	6535	682	9551	121
4. Capital, investment, costs in €								
a. Stock of buildings (K_1)	8086	1104	7467	3522	5474	1071	8734	165
b. Stock of machinery (K_2)	24868	6300	12690	4810	20189	5840	13519	340
c. New buildings-machinery	677	175	526	120	607	380	942	19
d. Costs for feeds, seeds etc.	8251	935	5011	874	7470	755	6014	47
e. Breeding livestock converted in head units	6.10	0.56	5.30	0.52	6.37	0.64	7.16	0.3
f. Breeding livestock in €	4683	6459	2894	216	4161	63	4171	17
g. Cost of energy (E) in €	2371	609	1091	332	2363	559	1489	34

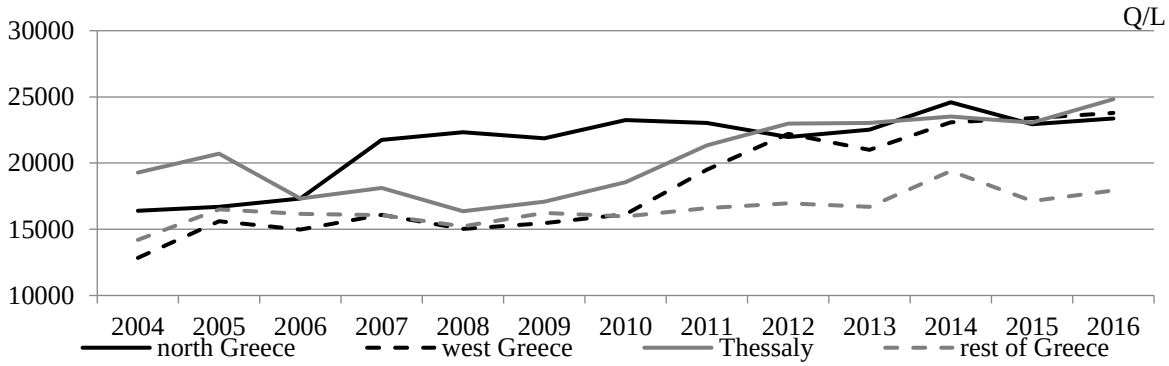
Notes: [i] The north country consists of Western, Central and Eastern Macedonia, Western Thrace, the islands of Thasos and Samothraki. [ii] The west country consists of Epirus, the Ionian islands, and the Peloponnese.
Source: EU Farm Accountancy Data Network; own calculations.

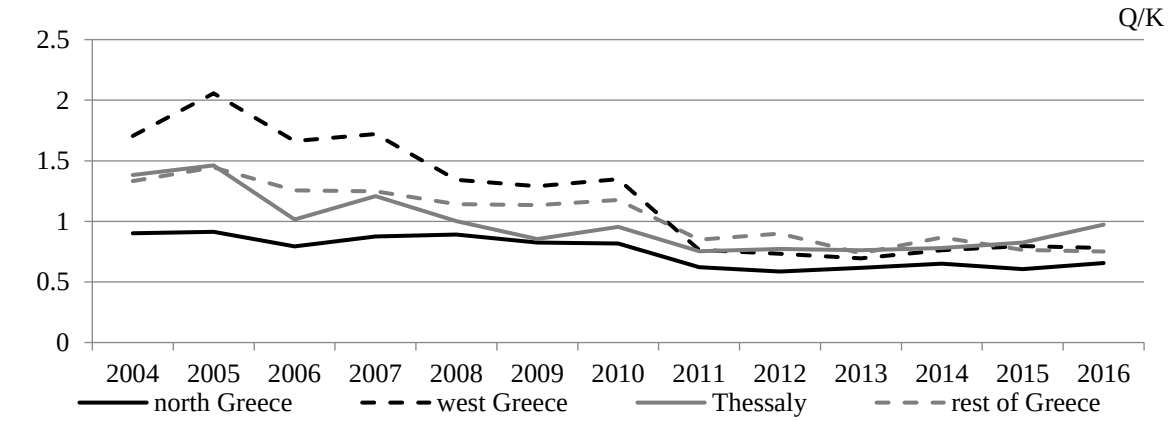
In addition, a series of basic calculations regarding output and the inputs involved reveal (Figures 1-9) that:

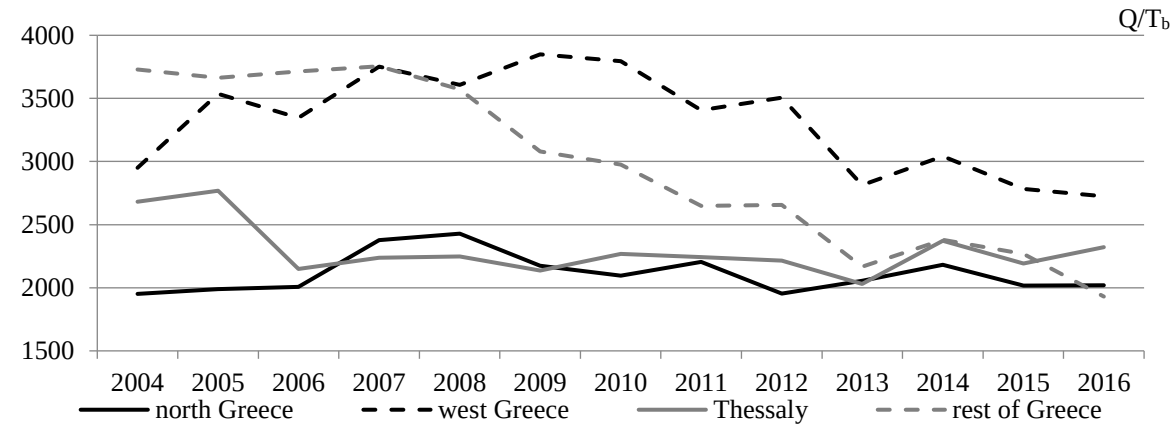
FIGURES 1-5
Agricultural inputs and output in Greece, 2004-16 (average holding, annual data)

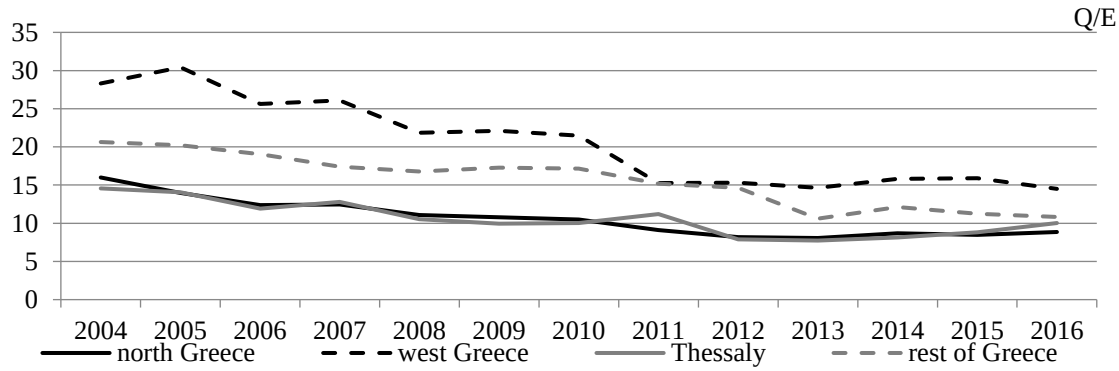


FIGURES 6-9
Productivity in agricultural across Greece, 2004-16 (average holding, annual data)









(I) *Q* generally increased over time; was higher in north Greece and Thessaly, and lower in west Greece and the rest of Greece. (In the latter two regions it evolved very much the same from 2008 onwards.)

(II) *L* generally decreased over time; was lower in Thessaly in 2004-2006, in north Greece in 2007-2010, and in west Greece in 2011-6, and higher in the rest of Greece.

(III) *K* increased over time, much in the same manner across all regions, and was higher in north Greece, modest in Thessaly, and lower in west Greece during 2004-10, and in both west Greece and the rest of Greece during 2011-16. (On the other hand, the 75% increase observed between 2010 and 2011 in western Greece was the highest change observed across all inputs.) Obviously, from L's decrease and K's increase, the sector moved from a more labor- intensive (less capital-intensive) to a less labor-intensive (more capital-intensive) state.

(IV) T_b generally increased over time; was lower in west Greece thought the period, and in the rest of Greece during 2004-08; and higher in north Greece, Thessaly, and (at the end of the period) in the rest of Greece.

(V) *E* generally increased over time; was higher in north Greece and Thessaly, lower in west Greece, and modest in the rest of Greece.

(VI) Labor productivity (Q/L) increased over time; was higher in north Greece, Thessaly (esp. in 2004-6, 2012-16) and west Greece (in 2012 on), modest in Thessaly (in 2007-11) and west Greece (in 2010-11), and lower in west Greece (in 2004-10) and the rest of Greece.

(VII) Capital productivity (Q/K) decreased over time; was lower in north Greece, and higher in west Greece (up to 2010), and in Thessaly and the rest of Greece (subsequently).

(VIII) Land productivity (Q/T_b) generally decreased over time, was higher in west Greece from 2008 on, and the rest of Greece in 2004-8, modest in the rest of Greece in 2009-12, and lower in north Greece and Thessaly throughout the period, and in the rest of Greece during 2013-6.

(IX) Energy productivity (Q/E) decreased over time, was higher in west Greece, lower in Thessaly and north Greece (it evolved very much the same), and modest in the rest of Greece.

At the same time, the performance of Granger (1969) causality tests among inputs, both within and across regions, based on first differences, suggest that, at the 0,01% probability of error, in Thessaly changes in the stock of buildings steadily anticipated changes in the value of livestock, and changes in the size of livestock (number of heads) steadily anticipated changes in labor; while in the rest of Greece changes in land value steadily anticipated

changes in labor, and changes in building and machinery investments steadily anticipated changes in livestock size (Table 2).

TABLE 2
Granger causalities with one lag on first differences of agricultural production inputs across holdings in Greece (2004-16)

Null hypothesis	Region	p-values < 0.01%
Stock of buildings does not Granger cause livestock value	Thessaly	0.0064
Livestock (in heads) does not Granger cause labor	Thessaly	0.0090
Holding's land value does not Granger cause labor	Rest of Greece	0.0005
New buildings-machinery do not Granger cause livestock (in heads)	Rest of Greece	0.0092

Source: See Table 1.

MODELING ISSUES

To properly look in the impact of the aforesaid inputs on production we turn to econometrics. First, we select a model that rules out production on the basis of a single input. The simplest approach is to employ an extended Cobb-Douglas expression (Charnes et al. 1976), for instance,

$$Q = A\, L^a\, K^b\, T^c\, E^d\, u, \qquad (1)$$

with u denoting the error term, the other lower case letters standing for input coefficients, and A standing for multi-factor productivity, i.e., the element that captures the impact of entrepreneurship and technology in combining the inputs involved, as well as the impact of other factors not specified in the expression (e.g., Chiang, 1984; 2000; Erken et al., 2016).

Secondly, we consider the issue of stationarity, that is, the issue (assumption) of a non-changing regressor mean and variance over time, so as to preclude complications in the case of predictions or autocorrelation analyses –though the paper has no such direction. To deal with non-stationarity one may (a) incorporate in the expression a trend term (t), (b) detrend the variables involved or (c) rely on successive differences (Maddala, 2001; Gujarati, 1995). All three are technically simple, though, in order to preserve degrees of freedom, we will not proceed beyond first differences. To incorporate a trend, and as matters in each region may evolve in a different way, a variant of expression (1) with factors that may vary over time (t), and across space (i), in order to suit the data, is considered:

$$Q_{it} = A_{it}\ L_{it}^a\, K_{it}^b\, T_{it}^c\, E_{it}^d\, u_{it}. \qquad (2)$$

Following the example of Jan Tinbergen (Nobel Prize laureate of 1969) and allowing A to vary over time (Wallis, 1973), A_{it} is specified as $A_{it}\, e^{ri+\lambda it}$, with t commencing at 1:

$$Q_{it} = A_{it}\, e^{ri+\lambda it}\ L_{it}^a\, K_{it}^b\, T_{it}^c\, E_{it}^d\, u_{it}. \qquad (3)$$

Equivalently:

$$lnQ_{it} = lnA_{it} + (r_i+\lambda_i t) + a\ lnL_{it} + b\ lnK_{it} + c\ lnT_{it} + d\ lnE_{it} + u_{it}. \quad (4)$$

To capture each input's rate of change, additional terms, in squared value form, may be considered. In the case of incorporating the squared value of labor, the expression takes the following form:

$$lnQ_{it} = lnA_{it} + (r_i+\lambda_i t) + a\ lnL_{it} + g(lnL_{it})^2 + b\ lnK_{it} + c\ lnT_{it} + d\ lnE_{it} + u_{it}. \quad (5)$$

Last but not least, all explanatory variables are made linearly independent of one another: *L* from *t*, *K* from *t* and *L*, *T* from *t*, *L* and *K*, *E* from *t*, *L*, *K*, and T; thus, satisfying a basic assumption regarding the independence of regressors (e.g., by Riley, 2012, and others). In essence, instead of regressing *lnQ* on arguments *t*, lnL_{it}, lnK_{it}, lnT_{it}, and lnE_{it}, initially lnL_{it} is regressed on *t*, an lnL_{it}' is predicted, and an orthogonal $lnL_{it}^{\circ} = lnL_{it} - lnL_{it}'$ is estimated; next, lnK_{it} is regressed on *t* and lnL_{it}°, an lnK_{it}' is predicted, and an orthogonal $lnK_{it}^{\circ} = lnK_{it} - lnK_{it}'$ is estimated, and so on. Thus, we may explain *lnQ* in terms of *t*, lnL_{it}°, lnK_{it}°, and additional regressors estimated in the same manner. Consequently, in the context of Tables 3 and 4, the second regressor is independent of the first regressor, the third regressor is independent of the former two, and so on. Indeed, insofar as in Table 4 the second regressor (lines 6-10) is, often, *t*, all other the explanatory variables (i.e., the inputs used) are made linearly independent of *t* and their stationarity issues resolved. It goes without saying that the order of the regressors employed affects the size of the estimated parameter for if the order were different, a different number of effects would be subtracted from each explanatory variable.

EMPIRICAL RESULTS

Four models are considered: (A) Model A is based on expression (5). (B) Model B is a variant of expression (5) that employs detrended variables (i.e., variables regressed on *t*, on the basis of which the trend element is subtracted). (C) Model C is based on the first differences of expression (2). (D) Model D is based on the first differences of expression (5). Each model is carried out under both possible data organization structures: in panel and pooled format. In the case of the former, the random effects (RE) variant is always preferred over its fixed effects (FE) counterpart, after the Hausman (1978) test. In the case of the latter, individual regional effects (if any) are easy to spot. To deal with heteroscedasticity, all analyses are carried out with robust standard errors. The best fits of the both the RE and the pooled analysis results are presented in Tables 3 and 4, respectively.

Of the RE results associated with low p-values (less than 1%), the estimated parameters regarding labor (in Models B-D), energy value, land value (Models B-C), and the cost of feeds, seeds, fertilizers etc. (in Model A) are associated with a positive sign; while the estimated stock of buildings (in Model D) is probably associated with a negative sign (the p-value=0,011). This suggests that *ceteris paribus* it might be better if the said stock were reduced. Model A is not likely to satisfy stationarity proponents, while Model C (which is based on a linear arrangement of terms, of the sort dQ = a dL + c dT + d dE + u) implies that the production function is linear and, hence, irreconcilable with the multiplicative, Cobb-Douglas, setting of expression (1). Indeed, it implies that inputs are perfect substitutes and, hence, allows for production entirely without labor (and/or other inputs). Model D has both a typical Cobb-Douglas component and a linearly added component (in particular: $Q = 1.014\ L^{0.963}\ T_a^{0.227}\ K_1^{-0.163} + e^{4.737(\ln L)(\ln L)}$) neither of which allows for zero inputs. Overall, the estimated coefficients of Models A and B add up to less than one, while the estimated coefficients of Model D to more than one. This suggests decreasing or increasing returns to scale, respectively.

TABLE 3
Random effects GLS regressions with robust standard errors on holding output across Greece, 2004-16

	Explanatory variables	Model A[i] log-log	Model B log-log detrended	Model C first differences	Model D log-log first differences
1	Constant	10.056	9.808	299.261	0.014
2	Labor in FTPE	-0.169	0.362	17,023.100	0.963
3	Labor in FTPE, squared			66,297.340	4.737
4	Costs for feeds, seeds etc.	0.316			
5	Value of land		0.382	0.079	0.227
6	Stock of buildings				-0.163
7	Cost of energy	0.124	0.175	1.699	
	St. Dev. (u)	0	0	0	0
	St. Dev. (e)	0.060	0.049	1667.042	0.074
	Rho (fraction of variance due to u)	0	0	0	0
	Observations (N)	52	52	48	48
	Number of groups	4	4	4	4
	Model fitness (R^2)				
	• within	41%	25%	33%	34%
	• between	100%	99%	90%	31%
	• overall	64%	81%	33%	34%

Notes: The second regressor is linearly independent of the first regressor, the third regressor is linearly independent of the former two regressors, and so on. The Levin–Lin–Chu, Harris–Tzavalis, Breitung, Im–Pesaran–Shin and Hardi tests are considered. P-values: Model A: (2) 0.011, (7) 0.032. Model C: (5) 0.004, (2) 0.005, (1) 0.020, (3) 0.059. Model D: (6) 0.011, (5) 0.024, (1) 0.044. The rest are equal to 0.000.

[i] Some variables are not stationary.

Source: See Table 1.

TABLE 4
OLS regressions with robust standard errors of pooled data on agricultural production across Greece, 2004-16

	Explanatory variables	Model A log-log	Model B log-log detrended	Model C first differences	Model D log-log first differences
1	Constant	9.898	9.547	476.387	0.023
2	Regions I-II	ref.	ref.		ref.
3	Region III		0.464		ref.
4	Region IV		ref.		ref.
5	Regions III-IV	0.082			
6	Time trend in region I	0.058			
7	regions II-III	0.010			
8	region IV	0.000			
9	region I squared	-0.003			
10	Labor (in work units) in region I		2.545	-1813.958	-0.059
11	regions I, III	-0.141			
12	region II	0.414			
13	regions II-III			9601.630	0.533
14	regions II, IV		1.108		
15	region III		0.037		
16	region IV	1.605		23500.970	1.394
17	region I squared		-5.538		
18	region II squared	-3.441	-0.843		
19	Cost of energy in region I			5.068	0.502
20	regions I-II, IV	0.423			
21	regions I-IV		0.344		
22	regions II-III			1.582	0.190
23	region III	0.364			
24	region IV			8.900	0.593
25	region II squared	-2.745	-4.431		
26	region IV squared	3.559			
	Stock of capital (buildings & machinery) in				
27	regions I-II, IV	0.009			
28	region III	-0.723			
29	region III squared	3.900			
	Investments in buildings & machinery in				
30	regions I-II		-0.158		
31	regions III-IV		-0.322		
32	region IV squared		14.990		
33	Value of terrain in region I			0.043	
34	region II			0.092	
35	region III			0.029	
36	region IV			0.091	
37	Stock of buildings in regions I, III-IV				-0.150
38	region II				-0.453
	Observations (N)	52	52	48	48
	Model fitness (R^2)	87%	91%	45%	49%

Notes: Regions that feature similar coefficients are grouped together so as to preserve degrees of freedom. The Levin-Lin-Chu, Harris-Tzavalis, Breitung, Im-Pesaran-Shin and Hardi tests are considered. All variables are stationary (exception: the regresands of Models A, C and D are stationary, respectively, in two, four and four out of five tests.) The p-values are provided as follows. In Model A: (5), (23), (28) 0.001; (12), (26) 0.003; (16) 0.005; (25) 0.006; (18) 0.027; (11) 0.412; (8) 0.912; (27) 0.948. In Model B: (32) 0.040; (25) 0.047; (30) 0.544; (15) 0.833. In Model C: (34) 0.001; (24) 0.016; (13) 0.036; (36) 0.049; (1) 0.050; (33) 0.069; (22) 0.159; (10) 0.622; (35) 0.737. In Model D: (16) 0.001; (24) 0.021; (13) 0.029; (1), (38) 0.030; (22) 0.141; (37) 0.262; (10) 0.751. The rest are equal to 0.000.

Source: See Table 1.

The pooled analysis provides more information at the regional level. The results associated with low p-values (less than 1%) reveal: (1) Considerable entrepreneurial and/or technological heterogeneity across space and time: The term associated with A_{it} is higher in Thessaly (in Models A-B), and the rest of Greece (in Model A), and increased over time in west Greece, Thessaly, and north Greece (in the latter case at decreasing rate) (Model A). (2) That the impact of labor, energy (in all Models), the stock of capital (in Model A), the flow of investments (Model B), and land value (in Model C) varied across space.

Model C is irreconcilable with the Cobb-Douglas setting and, hence, may not be fit well with economic theory. In the other three models, the estimated input coefficients -involving labor and energy (a good proxy for the active use of capital) plus one other factor- seem to consistently add to less than one in Thessaly, to more than one in the rest of Greece –this suggests decreasing returns to scale in the former and increasing returns to scale in the latter region- and in two out of these three models the said coefficients add to less than one in north Greece and west Greece.

In addition, Model D recalls a RE result by yielding a negative effect for the stock of farm buildings in west Greece (the relevant p-value=0.030%). However, Model B, is associated with a high goodness of fit (91%) and more degrees of freedom vis-a-vis the other pooled data analyses carried out, so perhaps best captures and advances our understanding on how the county's agricultural production economy operated during the period in question. According to the findings associated with p-values below 1%, *ceteris paribus* a marginal increase in (a) labor had a negligible effect in Thessaly and a positive effect in north, west and rest of Greece; (b) the use of energy had a positive effect throughout the country; (c) capital investments for buildings and machinery had a negative effect in Thessaly and the rest of Greece. On the other hand, as mentioned, Thessaly exhibited higher levels of multi-factor productivity.[2]

CONCLUSIONS

The paper reveals considerable heterogeneity in agricultural production across Greece, and advances our understanding on how the county's regional economies operated. During the time in question, the average holding shifted from a more to a less labor-intensive state of production, its labor productivity increased, and its capital, land and energy productivity decreased. An econometric analysis based on Cobb-Douglas and Cobb-Douglas-like models

[2] Variant specifications of model B involving a simple multiplicative form or deflated *Y* and *K* values are also considered. Though, not developed here (the paper is supposed to be very short), they are associated with slightly lower R^2s, are availble upon request, and are in line with what already shown.

(A, B, D) suggests that the impact of multi-factor productivity, perhaps, was higher in Thessaly. Moreover, it turns out that a marginal increase in labor had a positive effect in the rest of Greece (the outcome was observed in all models), and that holdings featured decreasing returns to scale in west Greece and Thessaly, and increasing returns to scale in the rest of the non-north parts of the county (in all models). However, the need for more specificity regarding individual activities and products will require different data and additional analyses.

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The Analysis of Turkish Banking Sector Profitability in 2018

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ABSTRACT: Banking sector profitability can be affected by many factors. This study aims to illustrate the differences between corporate and investment banks' source of profitability. On the other hand, it also compares and analyzes the ownership of the banks. With this study, profitability of Turkish Banking sector in 2018 has been evaluated with the SPSS program. 26 banks are evaluated in this analysis, including 6 state banks and 20 commercial banks. In the analysis, it can be clearly seen that Equity / Total Assets and Liquid Assets / Total Assets ratios have a positive impact on the level of profits.

Keywords: profitability, Turkish banking, regression analysis.

INTRODUCTION

The aim of this study is to determine the factors which affect profitability of Turkish Banking sector in 2018 by using data from The Banks Association of Turkey. To explain the sources of profitability which was shown as a dependent variable in the regression Liquid Assets / Total assets, NPL (net) / Total Loans and Equity / Total Assets have been used. On the other hand, Government, Private and Foreign Banks Net Profit / Total assets ratio have been inquired as the first category. In the second category, corporate and investment banks profits have been tried to be explained by these variables. Therefore, this research also aims to see if the ownership and different types of banking influence the source of profit. Although profitability has been affected by many factors with this research profits of the banks are aimed to be examined by using main indicator from their balance sheets in line with suggestions of Samirkas et al., (2014).

DESCRIPTION OF DATA

In this research the dependent scale variable Net Profit / Total assets ratio has been explained by 3 independent scale variables: Liquid Assets / Total assets, NPL (net) / Total Loans and Equity / Total Assets. In this research, ordinal variable (type of the bank) has been used. First,

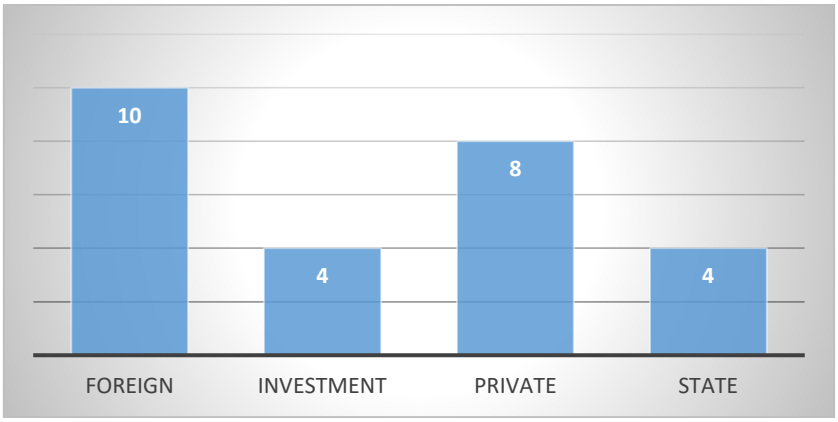
the banks are categorized into 4 groups by their ownership: Government, Private, Foreign and Investment. 26 Turkish banks have been analyzed in this study: 4 State owned, 8 private, 10 foreign, 4 investment banks. As seen in the Table 1, foreign and private banks outnumber the state banks.

TABLE 1
Descriptive Statistics for Categorical Variables

Type	Frequency	Percent
Foreign	10	38.5
Investment	4	15.4
Private	8	30.8
State	4	15.4
Total	26	100.0

The data is categorized according to the ownership type, as it can be seen from Figure 1 that foreign banks are the most and private banks are the second and government banks are the last. In the last decade especially, the foreign banks invested in the financial sector. Due to the lack of data and ignorable size, some of the other performing banks in the banking sector have been excluded.

FIGURE 1
Type of the banks



The data sets are analyzed with the Kolmogorov-Smirnov and Shapiro-Wilk tests to illustrate the normality of their distribution. The analysis shows that only NPL / Total Loans ratio shows a normal distribution. The other variables are not normally distributed as it is suggested by Kolmogorov-Smirnov and Shapiro-Wilk.

TABLE 2
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Liquid Assets / Total assets	.283	26	.000	.730	26	.000
NPL (net) / Total Loans	.076	26	.200*	.977	26	.796
Equity / Total Assets	.430	26	.000	.418	26	.000

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Table 3 illustrates the descriptive summary of the independent variables. This table helps us to understand the banking sector in Turkey briefly. NPL (net) / Total Loans ratio for the sector is maximum 8.19%, and the mean is 3.44 %. Equity / Total Assets ratio has the highest standard deviation and it is between 5.14 and 90.64 %.

The details of these statistics can be seen in the appendix. Table 9 gives a wider explanation for the descriptive statistics comparing the types of banks. NPL ratios for investment banks are lower than the other categories where private banks have the highest mean. It can be interpreted as private banks take the higher risk.

TABLE 3
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Liquid Assets / Total Assets	26	2.91%	71.81%	19.4028%	15.13008%	228.919	2.338	.456	6.010	.887
NPL (net) / Total Loans	26	0.00%	8.19%	3.4439%	2.07069%	4.288	.131	.456	-.168	.887
Equity / Total Assets	26	5.14%	90.64%	14.0625%	18.16582%	329.997	3.713	.456	14.012	.887

LINEAR REGRESSION MODEL

In this equation, Net Profit / Total Assets Ratio is aimed to be explained by three independent variables: Liquid Assets / Total assets, NPL (net) / Total Loans and Equity / Total Assets. The hypothesis is if these variables have an impact on Net Profit / Total Assets Ratio. Alternative hypothesis suggests that there is no relation between these variables. The model is expected to

support the idea that NPL / Total Loans ratio has a negative impact on Net Profit / Total Assets ratio, whereas Liquid Assets and Equity have a positive effect.

First, linear regression is implemented with all the variables using Enter method. As expected, coefficients of Equity and Liquid assets are positive whereas coefficient of NPL is negative. However, as we see the significance of the NPL/Total Loans variable is higher than 0.05 (0.507). Therefore, we reject that coefficient is different from zero. It means that NPL/Total Loans variable can be ignored in the equation. The constant term is also insignificant (significance is 0.134).

TABLE 4
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.356	.229		1.555	.134		
	Liquid Assets / Total assets	.017	.008	.238	2.188	.040	.609	1.642
	NPL (net) / Total Loans	-.033	.049	-.065	-.674	.507	.766	1.305
	Equity / Total Assets	.042	.007	.732	6.121	.000	.504	1.986

a. Dependent Variable: Net Profit / Total assets

Because of the NPL/Total Assets variable is insignificant, linear regression in the SPSS implemented again with Stepwise method. This time, SPSS drops the third independent variable (NPL (net) / Total Loans).

TABLE 5
Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.898[a]	.807	.799	0.47249%	
2	.916[b]	.839	.824	0.44182%	2.159

a. Predictors: (Constant), Equity / Total Assets
b. Predictors: (Constant), Equity / Total Assets, Liquid Assets / Total assets
c. Dependent Variable: Net Profit / Total assets

As we could see from Table 5, R, R Square and Adjusted R Square values show that independent variables explain the dependent variable successfully. On the other hand, the

Durbin Watson result in the second model indicates that there is no autocorrelation in the residuals. Field (2009) suggests that values under 1 or more than 3 are a definite cause for concern (2.159 in the results).

TABLE 6
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.427	.118		3.616	.001	.183	.671					
	Equity / Total Assets	.052	.005	.898	10.026	.000	.041	.063	.898	.898	.898	1.000	1.000
2	(Constant)	.236	.143		1.656	.111	-.059	.531					
	Equity / Total Assets	.045	.006	.770	7.443	.000	.032	.057	.898	.841	.624	.655	1.526
	Liquid Assets / Total assets	.015	.007	.218	2.109	.046	.000	.030	.670	.403	.177	.655	1.526

a. Dependent Variable: Net Profit / Total assets

Table 6 illustrates the results of the model which was created to explain Net Profit / Total assets for the banks in the Turkish Banking sector. In both models, constant term (intercept), Equity / Total Assets and Liquid Assets / Total assets are used to explain dependent variable. Significance of the dependent variables are tested in this table. As we could see from the table above that in the first model both dependent variable is significant in the 95% significance level (Significance is less than 0.05). In the models VIF values are between 1 to 10. This shows no multi-collinearity problem in the models. However, the constant term has 0,11 significance that is more than 0,05. It means that constant term has no effect to explain the Net Profit / Total assets in this significance level. Therefore, the first model is better to explain profitability of the banks in Turkey.

As we could observe from the Table 6, the coefficients are positive. This means that independent variables (Equity / Total Assets and Liquid Assets / Total Assets) positively effecting the Net Profit / Total assets ratio. It can be concluded that increasing Equity and Liquid Assets have a positive impact on the Net Profit.

In Table 7, correlations are observed by the Pearson correlation values. H0: $\rho = 0$ ("the population correlation coefficient is 0; there is no association") A correlation is statistically significant if its "Sig. (2-tailed)" < 0.05. According to the results of the test, all variables have statistically significant linear relationship at the 0.01 level. This is a sign of multicollinearity, however VIF values confirm that there is a moderate correlation, but it is not severe enough to warrant corrective measures.

TABLE 7
Correlations

		Liquid Assets / Total assets	Equity / Total Assets	Net Profit / Total assets
Liquid Assets / Total assets	Pearson Correlation	1	.587**	.670**
	Sig. (2-tailed)		.002	.000
	N	26	26	26
Equity / Total Assets	Pearson Correlation	.587**	1	.898**
	Sig. (2-tailed)	.002		.000
	N	26	26	26
Net Profit / Total assets	Pearson Correlation	.670**	.898**	1
	Sig. (2-tailed)	.000	.000	
	N	26	26	26

**. Correlation is significant at the 0.01 level (2-tailed).

On the other hand, in the following analysis, Net Profit / Total assets ratio aimed to be explained with the same dependent variables without using constant term. This analysis is implemented to see the changes in the explanatory power. And also, the analysis is needed to create a model with all variables are significant. In the Table 8, explanatory power of the new model is illustrated. Although R Square cannot be used in the new model to compare with the previous model, R values show an increase. Both models are explaining the Equity / Total Assets ratio better for the data set used in this analysis. It can be concluded that constant term is not necessary to provide a better explanation. Field (2009) suggests that Durbin-Watson values under 1 or more than 3 are a definite cause for concern (2.339 in the results).

TABLE 8
Model Summary[d,e]

Model	R	R Square[b]	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.932[a]	.868	.863	0.57539%	
2	.959[c]	.920	.913	0.45758%	2.339

a. Predictors: Equity / Total Assets
b. For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. This CANNOT be compared to R Square for models which include an intercept.
c. Predictors: Equity / Total Assets, Liquid Assets / Total assets
d. Dependent Variable: Net Profit / Total assets
e. Linear Regression through the Origin

Following Figure 2, P-P Plot, illustrates that P-P Plot of regression standardized residual. It displays linearity as it can be observed from the graph spots are close to normality line.

FIGURE 2
Plot

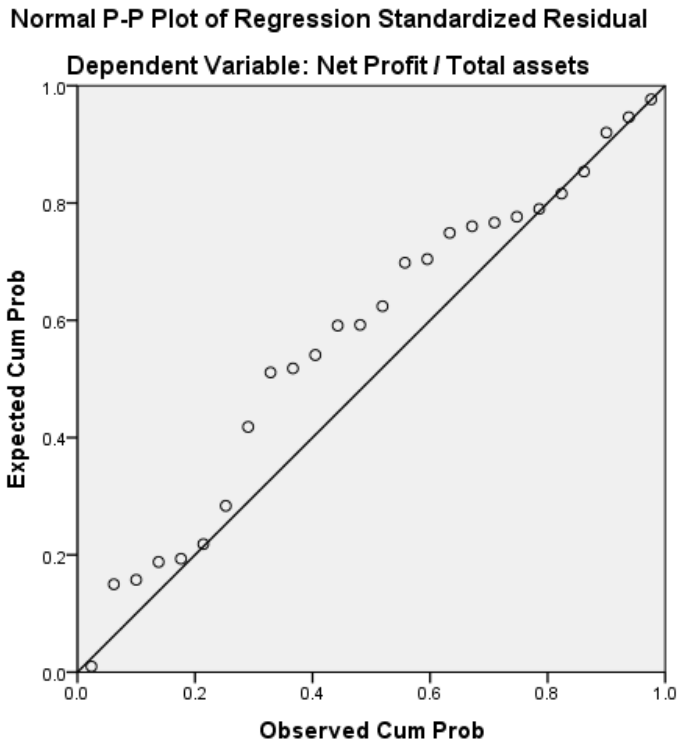


Table 9 displays the results of linear regression (stepwise) for the same dependent variables excluding the constant. In this regression NPL/Total Loans ratio has been excluded again by SPSS. In the both models, coefficients of Equity / Total Assets and Liquid Assets /

Total Assets are significant in 95% significance level, because of the significance is zero. As we could see from the Table below that, the coefficients are positive. The signs of the coefficients are illustrating that both variables have positive impact on the net profit. VIF values are again between 1 to 10 and therefore there is no multicollinearity in the models.

TABLE 9
Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	Equity / Total Assets	.064	.005	.932	12.834	.000	.054	.074	.932	.932	.932	1.000	1.000
2	Equity / Total Assets	.045	.006	.655	7.213	.000	.032	.058	.932	.827	.416	.404	2.476
	Liquid Assets / Total assets	.023	.006	.358	3.941	.001	.011	.035	.864	.627	.228	.404	2.476

CONCLUSION

This study analysed the profitability of Turkish Banking sector in 2018. 26 banks are used in this analysis, including 6 state banks and 20 commercial banks of Turkish Banking sector. To analyse the sector profitability, the dependent variable Net Profit / Total assets ratio has been explained by 3 independent scale variables: Liquid Assets / Total assets, NPL (net) / Total Loans and Equity / Total Assets. Also in this research, ordinal variable (type of the bank) has been used by categorizing them into 4 groups by their ownership: Government, Private, Foreign and Investment.

Linear regression is implemented with SPSS for the 26 banks. The model has excluded NPL/Loans ratio because of its significance level. After the analysis employed, it was observed that constant term is also insignificant. Therefore, in the third model, SPSS used only two independent variables to explain the dependent variable. In the final model, as expected Equity / Total Assets and Liquid Asset / Total Assets ratios are positively affecting Net Profit / Total Assets. The explanation power is around 95% for the last linear regression and the interpretation is that for every 1-unit increase in the Equity / Total Assets, Net Profit /

Total Assets will increase by 0.045, whereas for every 1-unit increase in the Liquid Asset / Total Assets, Net Profit / Total Assets will increase by 0.023.

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Analysis of the Sustainable Development of the Black Sea Coast Countries on the Example of Poland, Greece, Russia

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ABSTRACT: The analysis of the sustainable development of the tourism industry in the countries of South-Eastern Europe and the Black Sea regions showed the irregularity of sustainable development in the period from 2000 to 2018. The stratification of reports on the sustainable development of the hospitality industry allowed us to highlight the leading countries Russia, Greece, Poland. A comparative mnemonic analysis of sustainability reporting has shown the best practice for managing sustainable development in organizations – Orbis, Mercure, Temes.

Keywords: corporate social responsibility (CSR), hotels, sustainable development.

INTRODUCTION

Sustainable development is event the satisfaction of present generation's needs is done without the harm to the ability of future generations to meet their own needs. This basic formulation first appeared in 1987 in the report "Our common future". It was prepared by the UN Commission on environment and development, often also called the Bruntland Commission on behalf of its leader — GRU Harlem Bruntland, a politician and public figure from Norway, who made a huge contribution to the promotion of the concept of sustainable development and to international cooperation to achieve it. At the moment, there are 17 main goals in sustainable development, which are a kind of call to action. They are aimed at improving the well-being and protection of our planet. States recognize that measures to eliminate poverty must be taken in parallel with efforts to increase economic growth and address a range of issues in the areas of education, health, social protection and employment, as well as climate change and environmental protection.

Since 2000, companies in all spheres of economic activity have been preparing reports in the field of sustainable development. More and more companies understand that the preparation of open reports in the field of sustainable development promotes innovation and new knowledge, which in its turn helps to develop business and increase the benefits.

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The basic research method to conduct the research was a comparative analysis. Global Reporting Initiative (GRI) Sustainability Disclosure Database and ISO served as data sources of the research.

FINDINGS

The analysis of reports on sustainable development from GRI Sustainability Disclosure Database (2019) in the tourism industry was carried out, the data is reflected in Table 1.

TABLE 1
Analysis of sustainability reports in travel industry in the period from 2013 to 2018

	Number of reports by year						
Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**In total**
Austria	1	3	3	3	2	0	12
Argentina	0	0	1	1	1	0	3
Belgium	1	1	1	1	2	0	6
Brazil	3	2	2	1	1	1	10
Britain	2	1	2	1	1	0	7
Hungary	1	1	1	1	1	1	6
Germany	2	4	1	2	2	1	12
Greece	**2**	**0**	**2**	**3**	**3**	**2**	**12**
Spain	6	11	4	5	3	1	30
Mexico	3	5	6	7	4	0	25
Netherlands	2	1	1	1	0	0	5
Norway	1	0	0	0	0	0	1
Poland	**0**	**0**	**0**	**0**	**1**	**1**	**2**
North America	6	8	5	6	3	2	30
Asian countries	9	15	21	19	20	14	98
African countries	4	3	4	3	0	0	14
Taiwan	0	0	1	1	0	0	2
France	0	1	2	1	0	0	4
Switzerland	4	4	2	2	1	0	13
Sweden	5	6	4	6	4	3	28
Estonia	0	1	1	1	1	0	4
Russia	**1**	**1**	**0**	**0**	**0**	**0**	**2**

Most companies that have not previously published such reports are forced to change their position in the interests of business and they have to start preparing these reports in a short time. Reporting on sustainable development will continue to become increasingly important not only to preserve the image of a competitive company in the public mind, but also to gain a better understanding of how sustainable development reporting works affect business and help, for example, to cost reduction and realizing new opportunities. While expressing their views on the importance of such reporting, governments can also play a major role in promoting it and thus contribute to the further implementation of the initiative.

The overall analysis of the number of reports on sustainable development shows their smooth growth. The object of our researching was the tourism industry. From the analyzed

countries we selected 3 ASECU member countries, namely Russia, Greece, Poland. They are located on the black sea, Mediterranean and Baltic coasts. Russia, as a country located on the Black sea coast, is of greater interest for analysis, but since reporting is represented by only one tourist destination, for comparison we have taken 2 more countries. As a result, reports on sustainable development in the tourism industry of ASECU countries became the subject of the exploration, posted all the necessary information within the industry.

The GRI sustainable development reporting guidelines are based on the concept of sustainable development and demonstrate the company's understanding of and contribution to the sustainability of local territories and communities, the region, the country and even the world.

One of the tools open reporting of companies about their social and ethical behavior to society is a GRI – Global Reporting Initiative, which became the world's most common standard for the training of the public non-financial reporting. We reviewed GRI-type reports in some of the black sea, Mediterranean, and Baltic coast countries that are part of ASECU and compared their structure. So in the period from 2013 to 2018 Poland, Greece, Russia posted their reports on sustainable development in Sustainability Disclosure Database on the GRI website (2019).

TABLE 2
Analysis of reports on sustainable development in the period from 2013 to 2018

Country	Tourist site	Reports 2013-2018	
	Report type	GRI-G4	GRI-G3 3.1
Greece	TEMES S.A.	1	0
Poland	ORBIS	2	0
Russia	Sochi 2014 Olympic and Paralympic Organizing Committee	0	2

Having studied the “Guidelines for Reporting on Sustainable Development G4” we figured out the basic criteria that should be applied when preparing the report, principles and standard elements of disclosures. It can be seen from Table 3 that the most accurate requirements for reporting complied with TEMES S. A. (Greece) of the 7 core criteria, the report provides 5.

The sustainable development goals are a kind of call to action from all countries. They are aimed to improving the well-being and protection of our planet. In their reports on sustainable development, organizations provide information on how many goals have been achieved and in which way (Table 4) (GRI Sustainability Disclosure Database, 2019).

TABLE 3
Analysis of the structure of reports on sustainable development in the period from 2013 to 2018

Report article	**Tourist site**		
Country	**Poland**	**Greece**	**Russia**
Hotel	ORBIS	TEMES S.A.	Sochi 2014 Olympic and Paralympic Organizing Committee
Sustainable development principles and policies	—	+	+
Sustainable development agenda	—	—	+
Management system urticifolia	—	—	+
The approach to sustainable development	+	+	—
Sustainable development projects	+	+	—
Ethics and good faith	+	+	—
Co-operation with stakeholders	+	+	—

TABLE 4
Analysis of achieving the sustainable development of the chosen tourism objects

The goal of sustainable development	**Tourist site**		
Country	**Poland**	**Greece**	**Russia**
	ORBIS	TEMES S.A.	Sochi 2014 Olympic and Paralympic Organizing Committee
No poverty	—	+	—
Zero hunger	—	—	—
Good health and well-being	+	+	+
Quality education	—	+	+
Gender equality	—	—	—
Clean water and sanitation	—	+	—
Affordable and clean energy	+	+	—
Decent work and economic growth	+	+	+
Industry, innivation and infrastructure	—	+	+
Reduced inequalities	—	—	+
Sustainable cities and communities	—	—	+
Responsible consumption and production	+	+	+
Climate action	—	+	—
Life below water	+	—	—
Life on land	+	—	—
Peace, justice and strong institutions	—	+	—
Partnerships for the goals	+	+	+

These tables show that the direction of sustainable development is gradually increasing in the tourism and recreation industry. Hotels are trying to introduce into their development

plans elements that allow to carry out environmentally "friendly" activities. The introduction of such elements is quite expensive, so, for example, Russian hotels have long lagged behind foreign colleagues.

Sustainable development in the tourism industry, specifically in customer locations is based on principles, programs, policies. We studied the programs promoting sustainable development of the tourism industry in the member countries of ASECU, namely Poland, Greece and Russia.

Thus, the report on the sustainable development of the TEMES S. A. hotel, located in Greece, presented the following programs: Messianic authenticity program, Navarino environmental Observatory (N. E. O.), NaturaHall.

The Messianic authenticity program is a program that gives people from local associations the opportunity to share their customs and traditions with foreign visitors and at the same time increase their income. With this program, guests can personally get acquainted with the local traditions (for example, olive picking, grapes, cooking classes, singing and dancing). The aim of this program is to spread the rich cultural heritage and traditions among visitors from all over the world.

The Navarin environmental Observatory (N. E. O.) is a programme aimed at studying climate change and its impact on the environment, as well as human activities in the Mediterranean region. N. E. O. becomes a dynamic center for environmental research, where scientists from all over the world can meet to exchange know-how and develop new research ideas.

NavarinoNaturaHall is an interactive environmental exhibition centre in Costa Navarino, which informs visitors and local residents about the unique biodiversity of Messinia and the work currently underway. A special educational program for local schools, created in collaboration with the University of Peloponnese, began in 2012 and is currently in the fourth season. The program is based in the center, and today it is attended by more than 3,000 students.

Temes S. A. employees are confident if they combine their experience and commitment to sustainable tourism development with the knowledge and experience of stakeholders, they can achieve significant results in the application of the principles of sustainability in everyday life.

Programs promoting sustainable development of Orbis hotel in Poland: Construction of low-carbon hotels in BREEAM certification, Protection of children and adolescents, Plant for the Planet, Map of a large family, the key was the program “Planet 21”.

CSR program - planet 21 reflects the concern for people and the environment, and also allows you to create a competitive advantage of the Group in the hotel business. The program

presents the vision of the hotel, working in accordance with the principles of sustainable development, specific actions and goals to be achieved in the coming years in six areas.

Currently, sustainable development and adherence to ethical principles determine the development of companies, and the non-financial perspective is becoming increasingly important. Our stakeholders, from employees through shareholders to contractors, analysts and customers, expect the transparency and trust that we want to give them.

The whole complex of Olympic facilities has been built in Sochi before the 2014 Olympics. We have studied the report on sustainable development. It identified the sustainable development management system (SMS) as a results-based system that sets goals and provides an integrated approach to achieving them (together with key stakeholders). This system requires transparent performance reporting for both internal and external audiences. It aims to ensure that the transformational potential and opportunities of the Games are used to the fullest extent possible to create long-term positive social, environmental and economic changes.

Six main activities of the Sochi 2014 organizing Committee are defined:

- Healthy lifestyle;
- Harmony with nature;
- Barrier-free world;
- Economic prosperity;
- Modern technologies;
- Cultural and national values.

CONCLUSION

Sustainable development of the tourism industry in the countries of South-Eastern Europe and the black sea region has revealed uneven sustainable development. On the example of the leading countries (Russia, Greece, Poland), we studied the documentation on sustainable development and found out the basic principles and methods of achieving the sustainable development goals. Based on the data we have concluded the direction of sustainable development of tourism is particularly well developed in Greece. This object can be used as other tourist sites and countries. For Russia, this experience is particularly relevant for the Krasnodar region, which houses most of the tourist sites by the sea. Sustainable development is an integral part of the concept of development, not only as a fundamental design factor, but also as a guiding principle that defines actions from the planning stage to construction and operation.

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The New Challenge for South and Eastern European Countries and the Black Sea Region: Towards Automobile Industries

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ABSTRACT: Nowadays, more and more people become favourable to the issue that the sustainable development questions deserve to be the priority of our society. Especially when we go deep into the situation in the South and Eastern European Countries and the Black Sea Region, we get to know the industrial economics in these places are kind of incompatible with the sustainable development goals. In this paper, we select three auto companies with different levels of development as examples. Therefore, the object of this paper is: in-depth study into the automobile industries' responsibility and motivation when they facing the challenge of the sustainable development goals 2030, industrial upgrading measures which make them more socially responsible. We will analyze: the obstruction in developing sustainable automobile industry, the comparison with other successful industries that meet the requirements of sustainable development and the three examples of auto companies using the Analytic Hierarchy Process which calculated by development level and coordination degree. The conclusions will indicate the necessity of reacting to the challenge of the sustainable development and highlight the varying mains of different stages of development in the way to achieve the sustainable goal.

Keywords: automobile industry, comparison, mains, motivation.

INTRODUCTION

Italy, whose shape looks like a boot, lying in the southern Europe. It is well-known for its attracting landscape, delicious food and long-established industries. Since the Sustainable Development Goals which contents 17 requirements were raised in 2012, Italy has implemented its sustainable development strategy in many ways. When we combine the sustainable development with economics, it always means the satisfaction for contemporary people, and the ability to meet the development needs of future generations. For example, water management, air treatment, waste disposal, energy renewability, which deep into all aspects of life, including automobile industry.

ITALIAN AUTOMOBILE INDUSTRY CONDITION INTRODUCTION

Italy is regarded as one of the major automobile producers and also an important automobile market. They have their own complete system in this industry, which represented by Faint Group. When it comes to Faint Group, they are famous for their research and development ability and level, so do the manufacturing process technology. The brands that Faint Group includes are famous for Ferrari, Maserati, Jeep etc. They are sold all over the world and gradually become global famous. Nevertheless, with the development of the automobile, the

pollution it brings expand at the same time. Actually, the automobile industry resulted in adverse effects in many aspects. Car exhaust contains carbon monoxide, Nitric oxide, Hydrocarbon and another solid particles which do harm people's health. Besides, Nitric oxide and Hydrocarbon can form into Photochemical smog which is known for its toxicity, and it has happened for many times over these years. It can lead to headache, poisoning or even respiratory failure. Go back to the November in 2017, the Milan Environmental Protection Agency and the Green Peace reported that the inhalable particulate matter concentrations in the air had exceed 50 micrograms/cubic metres, which already over the warning value. And nearly 70% of nitrogen dioxide in the air is caused by exhaust emissions from motor vehicles. Meanwhile, noise pollution is caused by automobile industry and has affected the harmony of urban life seriously. According to relevant document, the main reason of it lies in the friction instability caused by automotive friction materials and it can take up to 75% of the total environmental noise. As we can see and hear in our daily time, there are noise loudy cars running through the streets day-to-day, which including Ferrari. To sum up, automobile industry is one of the pillar industries in Italy, thus it should make a big difference towards the Sustainable Development Goals. In my context, I will select three automobile companies which I do think can represent three different development levels towards the Sustainable Goals, and I will compare all of them to illustrate the differences when facing the same sustainable goals.

Analyzation Towards Three Automobile Companies and the Comparison between Several Companies

Actually, there are various development levels of automobile companies, and I will choose three of them to analyze how companies which are from different development level behave when they are facing the challenge of the Sustainable Development Goals. I select Ferrari, Jeep and Fiant as examples to illustrate this idea.

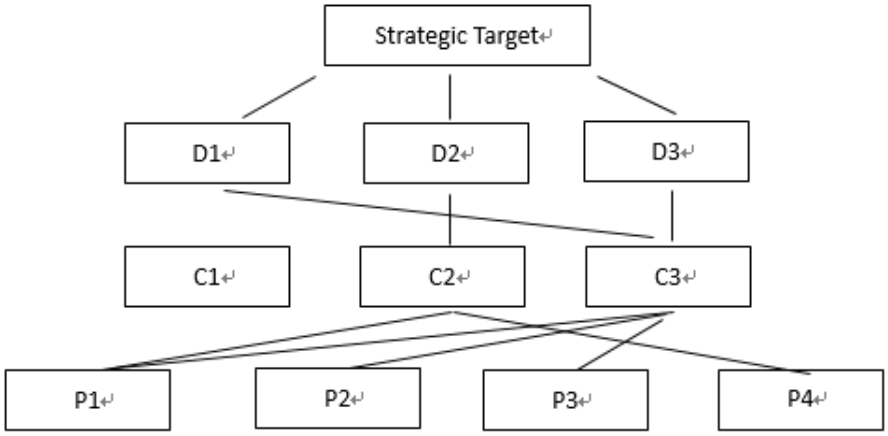
The whole question can be divided into following four parts.

- Strategic Target: Automobile Industry reach the Sustainable Development Goal.
- Development Strategy: D1.Catalytic Purification of Exhaust Gas; D2.Automotive Power Changing; D3.Improvement of Tire and Engine Technology.
- Constraints: C1.Insufficient funds; C2.Lack of Technical Strength; C3.Uncontrollable Human factor.
- Policies and Measures: P1.National Government Support; P2.Raising Fuel Prices; P3.Issuing Relevant law and Policy; P4Training and Introducing Relevant Talents.

Towards Ferrari

Ferrari is one of the major manufacturers of high-performance sports cars, even there exists a theme park named Ferrari World in the United Arab Emirates. The Fiant Group has ninety percent of the whole stock right. However, Ferrari can be a self-supporting company. We can see great financial firepower in this well-known automobile brand. According to the latest data, the main income is 1.501 billion, which from cars and spare parts, sharing 78.05% of the whole income. The market in Italy is up to 9.85%, which reflects the popularity of Ferrari. The annual report of it shows the steady growth and remarkable promise.[1]

According to the data, there comes a conclusion: Ferrari has adequate funding which can support the funding for sustainable development, and it will provide guarantees for the upgrading in the automobile industry. However, Ferrari still lack technical support, they can not ensure the way of sustainable development while providing luxury sports car experience.



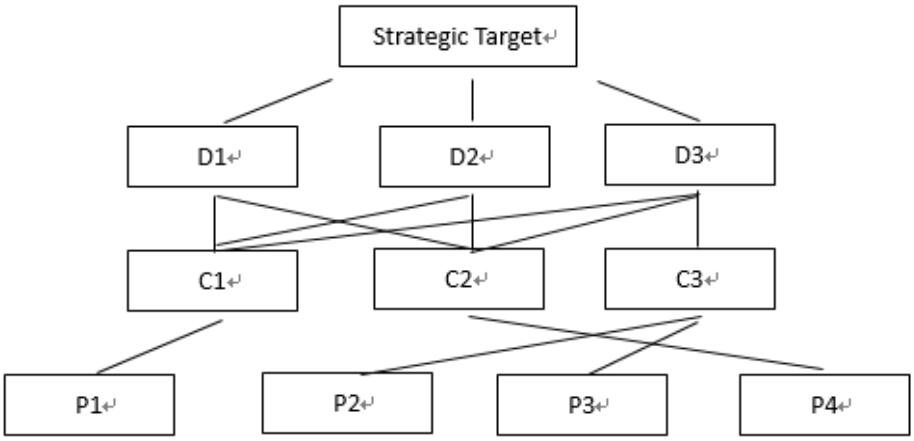
Towards Jeep

In 2014, Fiant Group completed the acquisition of Jeep shares. This action gave Jeep a chance to sale in greater markets such as Asia and Latin America, and bring better automobile manufacturing technology, superior platform for production as well. As for the performance of automobiles, the Fiant Group retained the landmark off-road performance but improve some details such as engine which used to be in poor performance.

According to the condition of Jeep, we can draw a conclusion that although Jeep can get Fiant Group's help, they still lack talent and funds. Meanwhile, Jeep still need to figure out a

[1] The data in the paper is from the east money.com.

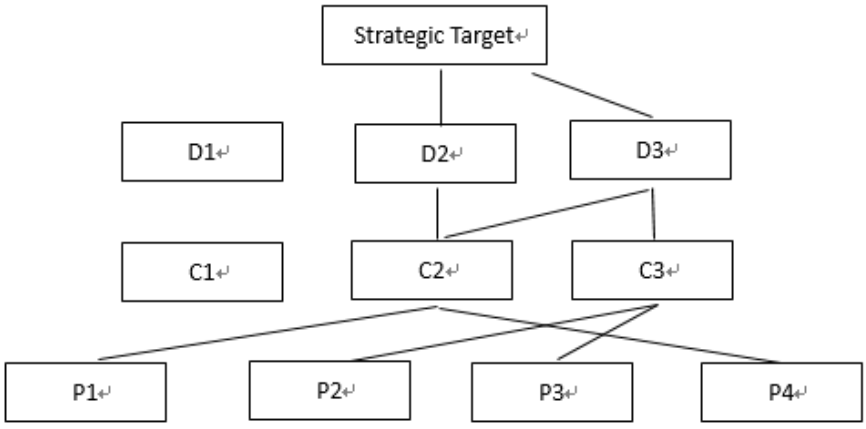
new way to approach the sustainable development goals because of its unique performance for cross-country ability. So, they can seek for government support on funds and talent to bring new power and opportunities.



Towards Fiant

Fiant is also a famous brand which belonging to the Fiant Group. It has elegant and luxurious appearance, which is interesting to people. Actually, people in Italy do not require high technology on it, for its Italian style appearance is attractive and dramatic enough for customer. It is worth mentioning that the engine of Fiant is powerful, and thus can increase the fun of driving, but do nothing good for the environment.

As we can see, Fiant is focusing on its attracting appearance and experience for customers. Nowadays, Fiant should pay more attention to the development to the sustainable goals as the 2030 becomes closer and closer. Similarly, they lack adequate funding and talent which can be solved by introducing talented person and seek for government's help.



To sum up, any of the three automobile companies have different development level and coordination degree, and the targets they have to cater are diverse. In fact, ECE which

means European Economic Community imposed laws and rules to control the emission of automobile exhaust in 1992.They defined three levels of the exhaust, among them the level ш is the low emission standards in the true sense. However, there exists several problems as I have mentioned above that blocking the way of development. So, when they are facing the Sustainable Development Goals 2030, different kinds of automobile company should adopt different tactics to solve their own problems.

The southern and eastern European countries are in steady and sustainable development during the past decades years, especially the automobile industry. But now, they seemed to approach a new period, which is kind of stagnate. From the recent production of these automobile companies, we can see there are seldom innovation towards the Sustainable Development Goals. Being an important identity in the southern and eastern Europe, automobile industry should establish a correct attitude to promote development in this area. In China, even though the automobile industry does not have the long history, it still play a necessary role in promoting sustainable development and the domestic demands are stimulated. Firstly, turn to finding new sources of energy which cater the needs of environment the august 2019, China Automobile Engineering Research Institute Company intended to establish the National Hydrogen Power Quality Inspection Center Project. It provides a good chance for using of Hydrogen energy, thus provides opportunities for the development of new energy automobile industry. Besides, a company called Nanshan Aluminum Industry announced they would produce aluminum plate for cars producing. Aluminium alloy has benefits on its light weight, extremely high recyclability, higher fuel efficiency etc. Company also accelerate the development of high-end manufacturing industry at the same time, and they can reduce the probability of failure on the way of reaching the sustainable development goals. From the example I mentioned above, we can see the huge steps on Chinese automobile companies. They find out several ways to achieve the goals, such as the innovation of fuel, the change of materials. Because the defects of the automobile company in China still exist, most of the companies rely on government financial aid. However, it is not conducive to healthy development of this industry. So, it is a challenge in China that whether the companies can develop independently in the way to the sustainable goals. Not only in China, there are a bunch of companies realized the importance of their responsibility of the Sustainable Development Goals. A well-known brand, named Honda, also does a lot to do this. It is reported the Honda will develop a new platform for electric vehicles facing the medium-sized vehicle. Not only does it do better for the environment, but also increase mileage of the cars.

CONCLUSIONS TOWARDS THE NECESSITY AND POSSIBILITY OF REACTING TO THE CHALLENGE

Generally, in the south and eastern European countries, the automobile industry needs urgent promotion on the way of accomplishing the goals of the Sustainable Development. Especially the European oil producers announced that the oil crisis is coming soon. For the automobile industry is pillar industry in that area, it also needs to establish a good image in this aspect. There are various kinds of ways to reach the goal, such as national government support, raising fuel prices, issuing relevant law and policy and training and introducing relevant talents. Truly, they have to notice the development of technology of automobile industry should be related to the demand for sustainable development goals and policy. Meanwhile, because of the different development levels and different coordination degrees, each automobile company has to choose their own methods to approach the Sustainable Development Goals 2030.

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EU Trade Policy and Sustainable Development Goals

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ABSTRACT: The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, bears in its heart the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in global level. Commercial activities are found to have a direct connection with SDGs in promoting the sustainable development for the 2030 Agenda.

The main theme of this paper is to demonstrate the connection between international trade and SDGs and the more detailed annotation of specific goals. The key question is, how and to what extent trade affects the effectiveness of sustainable development goals. The trade agreement between the EU and the countries of South, Eastern Europe and the Black Sea countries, known as the Eastern Partnership, is being explored to extract the results of this research.

Therefore, the analysis of the trade agreement between the EU and Armenia, Azerbaijan, Belarus (FTA – Free Trade Agreement) and Georgia, Republic of Moldova and Ukraine (DCFTA - Deep and Comprehensive Free Trade Areas) aims to show the extent of influence of the Eastern Partnership on SDGs in these countries and in which of these 17 goals it is more influential.

Finally, because of the existence of two different types of association between the EU and the Eastern Partnership countries, that is the difference between DCFTA and a simple FTA agreement, an analysis is made of the varying intensity of influence that may be exerted on sustainable development goals depending on the size of association that exists and which of these goals have different outcomes.

Keywords: trade policy, economic development, sustainability, EU trade agreements, environment, industry.

INTRODUCTION

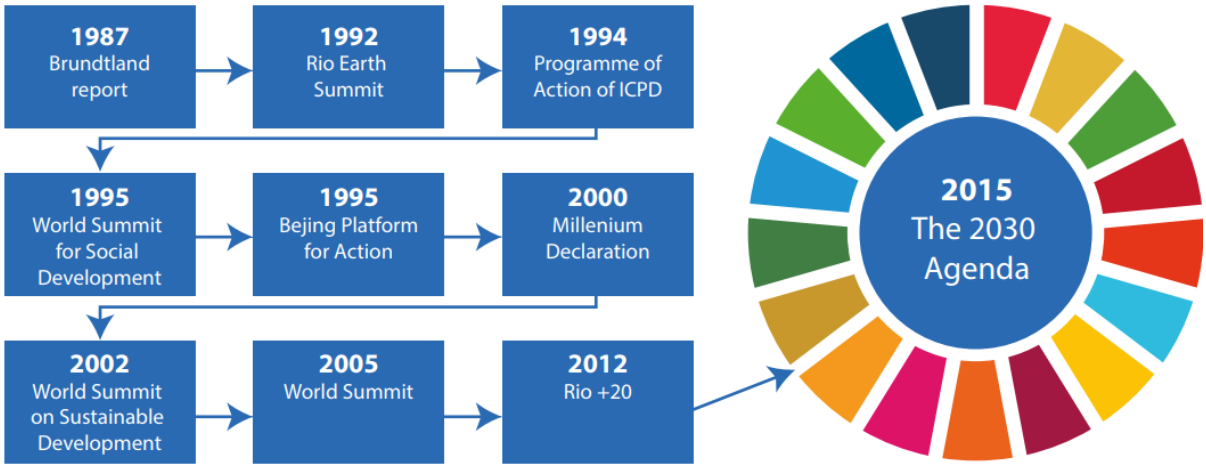
In recent years, the term "sustainable development" has often been mentioned. What does "sustainability " mean and what are the goals that a country needs to achieve in order to lead to sustainable development? The 2030 Agenda for Sustainable Development includes 17 goals that have been at the top of the agenda for many years. This research paper seeks to link trade with sustainable development and these goals. Reference is made to the impact of international trade on sustainable development and how the participating countries benefit or not. More specifically, the paper refers to EU- level and they are mentioned the EU trade policies and their impact. If the EU integrates sustainability into its trade policies and what benefits the involving Member – States have in these actions. A case study for more in-depth research is Eastern Partnership (The trade agreement between the EU and the countries of the South, Eastern Europe and the Black Sea countries). This research goal is to find out whether or not the Member States of this trade agreement have benefited and to what extent. Does

international trade always bring positive results? The paper, at this stage, is theoretical but it also contains some statistics that give more concrete results to the questions asked.

Sustainable development objectives have been at the heart of European policy for a long time, firmly anchored in the European Treaties and mainstreamed in key projects, sectoral policies and initiatives. The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), adopted by the United Nations (UN) in September 2015, have given a new impetus to global efforts towards achieving sustainable development. The EU and its Member States are committed to this historic global framework agreement and to playing an active role to maximise progress towards the SDGs.

'Development which meets the needs of the current generations without compromising the ability of future generations to meet their own needs'. This is the definition of sustainable development that was first introduced in the Brundtland report by the World Commission on Environment and Development (WCED) in 1987, and it is the most widely used nowadays. After that, the Rio Declaration on Environment and Development (1992), the World Summit for Social Development (1995), the Programme of Action of the International Conference on Population and Development (ICPD) (1994), the Beijing Platform for Action (1995), the Millennium Declaration (from which the Millennium Development Goals were derived), the World Summit on Sustainable Development (2002), the 2005 World Summit and the UN Conference on Sustainable Development (Rio+20) in 2012 were among the most important milestones in the international pursuit of sustainable development, which paved the way forward for the 2030 Agenda.

FIGURE 1
Important milestones on the road to Agenda 2030



Source: Eurostat – Sustainable development in the European Union.

SUSTAINABLE DEVELOPMENT GOALS

In September 2015, the UN General Assembly (UNGA) adopted the 'Transforming our world: the 2030 Agenda for Sustainable Development' document. The 2030 Agenda is the new global sustainable development agenda. At the core of the 2030 Agenda is a list of 17 SDGs and 169 related targets to end poverty, protect the planet, and ensure prosperity and peace. The Agenda also calls for a revitalised global partnership to ensure its implementation. The SDGs are unprecedented in terms of significance and scope and go far beyond the UN Millennium Development Goals by setting a wide range of economic, social and environmental objectives and calling for action by all countries, regardless of their level of economic development. Although the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the 17 goals.

Monitoring of the SDGs takes place at various levels — national, regional, global and thematic. The UN High-Level Political Forum (HLPF) is the UN's central platform to follow up and review the 2030 Agenda and the SDGs at the global level. To this end, the 2030 Agenda encourages UN member states to conduct voluntary national reviews of progress towards the SDGs.

FIGURE 2
Sustainable Development Goals

INDICATORS

In order to follow up and review the goals and targets, a set of global indicators was designed by an Inter-Agency and Expert Group under the supervision of the UN Statistical

Commission. In July 2017, the UN General Assembly (UNGA) adopted a global indicator list, including 232 different indicators. However, only 43% of those indicators are ready to use (these are classified as tier 1 by the UN); for a further 39% data are available for less than 50% of countries worldwide (tier 2), and for the remaining part no internationally established methodology is yet available (tier 3). There are gaps not only in developing countries, but also in developed nations, and filling these gaps requires financial resources, as well as knowledge-sharing and investments in human capital. The UN anticipates two comprehensive reviews of the indicator set in 2020 and in 2025. As far as possible, indicator trends are assessed over two periods:

- The long-term trend, which is based on the evolution of the indicator over the past 15-year period (usually 2002 to 2017 or 2003 to 2018). The long-term trend is also calculated for shorter time series if data are available for at least 10 years.
- The short-term trend, which is based on the evolution of the indicator during the past five-year period (usually 2012 to 2017 or 2013 to 2018). In a few exceptional cases, the short-term trend is calculated for shorter time periods, as long as data are available for at least three years.

INTERNATIONAL TRADE AND SUSTAINABLE DEVELOPMENT

How is international trade related to sustainable development? The main part of the present paper is the issues of international trade and trade policies combined with the concept of sustainable development and its 17 goals. The questions posed in the text are in the context of linking trade, mainly at EU level, with the sustainable development goals. So, in this unit will be presented the impact that international trade has on SDGs.

Undoubtedly, trade is directly linked to the sustainable development goals as international trade is an engine for economic growth that can contribute to promoting sustainable development. It can be a powerful force for creating jobs, fostering efficient use of resources, stimulating entrepreneurship and ultimately lifting people out of poverty. According to UNCTAD, the 2030 Agenda for Sustainable Development recognizes international trade as an engine for inclusive economic growth and poverty reduction, and an important means to achieve the Sustainable Development Goals (SDGs).

There is no specific trade-related SDG as was the case with the MDGs. Instead, international trade is considered an important means of implementation for inclusive economic growth and poverty reduction. This goal calls for partnerships to promote rules-

based multilateral trading systems, and duty-free and quota-free market access for least developed countries. The treatment of trade across the 2030 Agenda reflects the view that trade can, when well-regulated, contribute to growth and sustainable development. The SDGs therefore include several targets linked to a variety of trade-related policy reforms ('trade-related targets') such as SDGs targets 17.10, 17.11, 17.12

Goal 17 targets related to trade:

- **17.10** Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda
- **17.11** Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020
- **17.12** Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access

If trade and investment law and policy are to achieve their full potential for enhancing human well-being, they must be aligned with priorities that go beyond simply increasing flows of goods, services and funds. That need for alignment is strongly recognized in the Sustainable Development Goals (SDGs). The SDGs describe trade as a key means of implementation, along with finance, technology and capacity building.[1] The companion agreement in the so-called post-2015 agenda, the Addis Ababa Action Agenda on Financing for Development, calls trade an "engine for development," and pledges: "We will integrate sustainable development into trade policy at all levels."[2]

The benefits of international trade and trade policies in sustainable development are many, in many areas, and are not limited to just one of the objectives. Not just in SDG 17 - where trade is mentioned briefly, trade is a common thread throughout the goals' targets. Sustainable development goals are divided into three categories, economic, social and environmental.

It's pretty obvious how trade can support the economic pillar of sustainable development. Undoubtedly international trade and trade policies increase a country's GDP and

[1] Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.
[2] Paragraph 82.

thus generate economic growth. Also, over the past few decades, we've seen the significant role of global trade in reducing poverty, creating jobs, and promoting growth. According to the World Bank and the WTO, developing countries made up 48 percent of world trade in 2015, up from 33 percent in 2000. Meanwhile, the number of people living in extreme poverty was cut in half between 1990 and 2015. Trade helps provide more and better jobs to people, lower prices for products, and stimulate the growth necessary to end poverty. (See Sustainable Development Goal (SDG) #1, which aims to eradicate poverty, and SDG #8, which focuses on decent work and inclusive economic growth.)

On social interests the effect of trade is more complicated. The economic benefits of trade can empower people to address major social needs in their communities, like protecting human rights, improving working conditions, and achieving gender equality. Further, trade agreements and rules also have the potential to serve as social safeguards. In 2011, the WTO estimated that 75 percent of the world's countries were bound by a free trade agreement (FTA) that included provisions addressing human rights. In 2013, around 120 of the 190 countries that were parties to FTAs were parties to an FTA that includes labor rights protections. All of European Union's trade agreements contain gender equality regulations. (See SDG #5, which aims to end gender discrimination, and SDG #8.)

EU TRADE AND SUSTAINABLE DEVELOPMENT

In this unit, discussing the positive impact of international trade, more specifically will be mentioned the impact of EU-level trade on sustainable development. The impact of EU trade policy on the Sustainable Development Goals will be examined in detail. Do EU trade agreements contribute positively, negatively or have no impact in this area? Does EU trade policy help achieve and improve the results of the 17 goals? A case study of this work will be the Eastern Partnership and the influence that European trade policy has on the member-states of the agreement.

First of all, EU law requires all relevant EU policies, including trade policy, to promote sustainable development. So, EU trade policy aims to ensure that economic development goes hand in hand with social justice in key areas such as respect for human rights, high labour standards and high environmental standards. The EU also works to ensure trade policy helps promote sustainable development through:

- EU trade agreements (such as EaP)
- Special incentives for developing countries
- Trade and development policy

- According to the European Commission data, Modern EU trade agreements contain rules on trade and sustainable development. The EU and its trade partners must:
- follow international labour and environment standards and agreements
- effectively enforce their environmental and labour laws
- not deviate from environmental or labour laws to encourage trade or investment, and thereby preventing a 'race to the bottom'
- sustainably trade natural resources, such as timber and fish
- combat illegal trade in threatened and endangered species of fauna and flora
- encourage trade that supports tackling climate change
- promote practices such as corporate social responsibility

The EU also uses its trade agreements to:

- promote sustainable public procurement
- remove barriers to trade and investment in renewable energy

DISADVATAGES

But the influence of trade cannot be only positive. It is stated above that ‘’trade can, when well-regulated, contribute to’’ these benefits. But what happens when it is not ''well - regulated'' and what this term means. A very important issue is whether trade contributes to the third pillar of the goals of sustainable development, namely the environment. The relationship between trade and the environment is complex and certainly not always positive. For example, global agricultural trade has caused agricultural expansion, deforestation, and biodiversity loss in producer countries. Soybean and palm oil exports bring revenue to countries like Brazil, Indonesia, and Malaysia, but the intensive farming of these crops also causes rainforest and habitat destruction, overfarming, and soil and water destruction. (See SDG # 6, which focuses on reducing water scarcity and improved access to clean water, and SDG # 15, which aims to conserve land-based ecosystems such as forests and wetlands.)

Trade may also be an obstacle to combating climate change. According to the WTO and the UN, open trade would increase industrial production and eventually increase CO2 emissions. Also, “trade may increase the vulnerability to climate change of some countries because it leads them to specialize in the production of products in which they have a comparative advantage, while relying on imports to meet their requirements for other goods and services. These countries may become vulnerable if climate change leads to an interruption in their supply of imported goods and services.” (See SDG #13, which focuses on the need for climate action.)

Although some FTAs have environmental protection provisions on paper, they are seldom able to be enforced. Even though there have been documented violations, no Party has ever brought a formal case based on the environmental provisions of any US FTA. This failure to enforce and upholding laws hinders society's progress toward sustainability.

Finally, even in the social pillar of sustainable development, international trade does not always have positive results and in some cases the contribution of trade is in doubt. A very good example is the NAFTA agreement. So, trade agreements can lead to worsening working conditions, as NAFTA has demonstrated. In addition, these provisions that includes provisions addressing human rights and environmental protection are sometimes difficult to enforce.

EASTERN PARTNERSHIP

What is the Eastern Partnership? The Eastern Partnership (EaP) is a joint initiative involving the EU, its Member States and six Eastern European Partners:

- Armenia
- Azerbaijan
- Belarus
- Georgia
- The Republic of Moldova
- Ukraine

The EU has been one of the largest trade partners for so called Eastern Partnership (EaP) countries. The Eastern Partnership is a specific Eastern dimension to the European Neighborhood Policy (ENP). Through the ENP, the EU works with its southern and eastern neighbors to achieve the closest possible political association and the greatest possible degree of economic integration. Security, stability and prosperity, democracy, increased cooperation and rule of law in Eastern Europe are a priority for the EU. Additionally, bonds forged through the Eastern Partnership help strengthening state and societal resilience: it makes both the EU and the partners stronger and better able to deal with internal and external challenges. Heads of state or government from the EU member states and the six Eastern Partner countries meet every other year in Eastern Partnership Summits. The latest Eastern Partnership Summit took place in Brussels on the 24th of November 2017 and endorsed a result-oriented approach, based on the implementation of 20 deliverables by 2020 and multilateral engagement through a renewed Eastern Partnership institutional set-up.

BACKGROUND AND KEY DEVELOPMENTS

The European Neighborhood Policy (ENP) was developed as a framework for relations with the EU's neighboring countries in 2004. The Eastern Partnership (EaP) was established as a specific Eastern dimension of the ENP, which contains both a bilateral and multilateral track. It was launched at the Prague Summit in 2009. Since then, the Eastern Partnership has evolved; the substance of the policy has broadened, deepened and been adapted to changing realities. The latest important policy developments are guided by the 2015 review of the ENP and the 2016 EU Global Strategy. Both call to focus on achieving the goal of increasing stabilization and resilience of the EU's neighbors.

With the launch of EaP initiative in 2009, relations between the EU and the Eastern European countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) have received new impetus for development. The EaP offers upgrade of relations within three major dimensions, namely

(a) the Association Agreement (AA)

(b) Agreement on a Deep and Comprehensive Free Trade Area (DCFTA)

(c) Visa Facilitation and Readmission agreements.

Within this trade agreement there are differences in the degree to which the EU connect with the six EaP Member States. The AA talks have been launched with all EaP countries expect for Belarus, and four of them have been involved in the DCFTA talks. Ukraine has progressed the most, as after five years of negotiations the EU-Ukraine Association Agreement with embedded DCFTA has been initialed in 2012.

ASSOCIATION AGREEMENTS (AA) AND DEEP AND COMPREHENSIVE FREE TRADE AREA (DCFTA)

AA

The EU has put forward concrete ideas for each eastern partner country through a new generation of association agreements. These replace the partnership and cooperation agreements concluded with partner countries in the late 1990s. The EU has negotiated with EaP partners a series of association agreements which provide:

- enhanced political association
- increased political dialogue
- deeper cooperation on justice and security issues

They constitute a plan of reforms that will bring the partner countries closer to the EU by aligning their legislation and standards to the EU ones. This will improve peoples' lives in a tangible way.

DCFTA

As part of the association agreements the EU has concluded negotiations on deep and comprehensive free trade area (DCFTA) with **Georgia, Moldova and Ukraine** to:

- improve access to goods and services
- reduce tariffs, quotas, barriers to trade
- ensure stable legal environment
- align practices and norms

Current status

- Georgia: republic of Moldova and Ukraine : the AA/DCFTA agreements concluded in 2014 have entered into force and have brought the relations between these partners and the EU to a new level
- Armenia: a comprehensive and enhanced partnership agreement was signed in 2017 in the margins of the 5th Eastern Partnership
- Azerbaijan: negotiations for a new comprehensive agreement started in 2017
- Belarus: the EU is deepening, in carefully calibrated mutual steps, its critical engagement with Belarus

EASTERN PARTNERSHIP COOPERATION: PRIORITY AREAS

Tangible results for citizens are at the centre of EU engagement within the Eastern Partnership. The pursuit of tangible results has resulted in 20 deliverables of Eastern Partnership cooperation for 2020. These were developed in close consultation with all the stakeholders. Some of the most important deliverables include:

- Modernised transport connections through the TEN-T network
- Increased political ownership of energy efficiency
- Easier access to finance for SMEs, including to lending in local currency
- Establishing ways of reducing roaming tariffs between partners by conducting a study
- Increased trade opportunities
- Greater outreach to grassroots Civil Society Organizations
- More support for youth

- A joint staff working document " Eastern Partnership – 20 Deliverables for 2020 " drafted by the Commission and the EEAS details the key priorities and the tangible results in the four priority areas agreed at the Eastern Partnership Summit in Riga in 2015.

FIGURE 3
20 Deliverables for 2020

Factsheet on the Eastern Partnership's 20 deliverables for 2020.

1. Stronger Governance: Strengthening institutions and good governance

Strengthened institutions and good governance are important preconditions for economic growth and societal resilience. Improving governance, strengthening of electoral systems, reforming the justice sector, fighting corruption, strengthening security cooperation – notably to disrupt organized crime – supporting conflict resolution, crisis prevention, civil protection against new threats and cyber-security are key elements for citizen's trust in their state and a fairer society. Furthermore, enhanced cooperation in the area of security will make the EU and its Eastern Partners better equipped to protect their citizens.

2. Stronger Economy: Economic development and market opportunities

In the area of economic development and market opportunities the 20 Deliverables for 2020 will aim to create more and better jobs and higher incomes, notably by improving the business environment. The EU will support its Eastern Partners in moving towards diversified, sustainable and modern economies, to create jobs in new sectors, attract investments and support macroeconomic stability, to drive the economic transition process forward and to improve the capacity of Partner Countries to take advantage of the trade opportunities with the EU and among each other.

3. Better Connectivity: Connectivity, energy efficiency, environment and climate change

Better connectivity, energy efficiency, measures to preserve the environment and reduce climate change will further bolster the resilience of Partner Countries. Better transport links will support trade and travel by citizens. Energy interconnections and enhanced energy efficiency will strengthen energy security and open new opportunities for economic development. Enhanced climate change adaptation and mitigation efforts help Partner Countries to develop more efficient economies while becoming less vulnerable to the adverse impact of climate change and improving the quality of life.

4. Stronger Society: Mobility and people-to-people contacts

Enabling easier and more frequent exchanges among citizens is central in the field of mobility and people-to-people contacts. Mobility and multi-faceted contacts between societies, including visa liberalization, in a secure and well managed environment offer opportunities to learn from best practices in other countries. Particular efforts will be made to invest in youth as an investment in the future by supporting and empowering the young generation, specifically in terms of developing their skills and fostering their employability.

5. Involvement of broader society, gender and communication

A structured engagement with a wider range of civil society organizations, furthering gender equality and non-discrimination, as well as better, clearer and tailor-made strategic communications will be pursued as horizontal elements relevant for all four Eastern Partnership priority areas.

EASTERN PARTNERSHIP AND SDGS

The key issues that are in the priority areas of this trade agreement, according to the Eastern Partnership's official data are targets for economic development, energy, environment and transport, and stronger society, as well as on gender equality, the media and civil society. Over the past decade, the collective efforts of the EU and the partner countries have brought considerable benefits to the citizens including more trade, mobility, increased economic development and better quality of life in areas that are targets for sustainable development.

According to the same data source from the official records of this trade agreement, this paper concludes with the following statistical results. Political and economic agreements with the Eastern Partner countries mean greater trade and investment opportunities: the number of companies from DCFTA countries exporting to the EU has grown significantly since 2015 – Georgia by 35%, Moldova by 40% and Ukraine by 26% - and together, the six Eastern Partner countries are now the EU's 10th trading partner, with volumes of trade also up by 12% with Armenia, 28% with Azerbaijan, and 16% with Belarus. The EU has also provided over 125,000 loans to SMEs, to support growth and jobs in the region.

The Partnership is also delivering better transport links and infrastructure, with 4,800 km of new and rehabilitated roads and railways by 2030. And it is encouraging greater energy resilience and efficiency – both at local energy infrastructure level and for individuals, with almost 100,000 families reducing energy bills and improving living standards thanks to EU support.

As a result of cooperation with the EU, citizens across the region also enjoy more accessible and service-oriented public services, with new service-centre one-stop-shops and/or e-government services across the six countries.

The EU is also opening travel, study and professional opportunities for citizens in Partner countries, with more than 80,000 youth exchanges by 2020, including through the Erasmus+ program. And travel has become easier, with visa free regimes in place between the EU and Georgia, Ukraine and Moldova, while the EU has facilitation and readmission agreements in place with Armenia, Azerbaijan, and has finalized negotiations with Belarus.

Also, 2million scientists, academics and students at over 700 Research and Education institutions in all 6 Eastern Partner countries now enjoy easier access to a high-capacity broadband internet.

Also, EU trade agreements with the following countries include rules on trade and sustainable development:

- Canada
- Central America
- Colombia, Peru, and Ecuador
- Georgia
- Japan
- Mercosur
- Mexico
- Moldova
- Singapore
- South Korea
- Ukraine
- Vietnam

Within these countries there are 3 of the EaP member - states. These countries are member - states with DCFTA agreement. The other 3 countries of the EaP agreement (with AA agreement) do not have such rules on trade and sustainable development. This leads us to conclude that countries with DCFTA agreement, have a very positive impact in this area compared to other countries. As a result, they are making great progress in the field of sustainable development as a European trade policy assists and supports them in these matters.

CONCLUSIONS

The purpose of this paper is to show whether international trade is affecting the goals of sustainable development in the countries concerned and if so to what extent. International trade favors Member States in many areas. However, there are many areas where trade policies do not contribute positively to the SDGs. These areas are mainly environmental. This paper mentioned the way international trade and the trade policies adopted have a direct impact on sustainable development and its goals. European trade policy aims in common goals with those of sustainable development, which leads the participating Member States to show improvement in those areas.

In particular, according to the above, the Eastern Partnership Member States have benefited from this agreement in the field of sustainable development. They have shown positive results in many of the SDGs. Even more positive was the contribution to DCFTA agreements (e.g., Ukraine) where the benefits were greater. Thus, we conclude that the EU's trade policy with the Eastern Partnership countries has helped these countries improve and develop in many areas.

Coming to a final conclusion and answering all the initial questions that were raised, trade is directly linked to the SDGs, especially when there is a trade agreement. In this case study, trade effect has been positive results. Trade impacts different aspects of sustainability in various ways, both positively and negatively. It has a rich context in the real world, so we must understand the full scope of the effects of trade when talking about it as an engine or impediment for sustainability.

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Brexit Dilemmas: the UK Leaving the EU or Not

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ABSTRACT: The article interprets the possible positives and negatives of the expected Brexit on the UK and the European Union. Brexit is a key event of political and economy life in Europe. After the final results of the historical referendum from 23 June 2016 about the membership of Great Britain in Europe Union, the prime minister David Cameron resign. Teresa Mei was next prime minister and three years later on 07 June 2019 she left her leader position in party of conservative, and also the prime minister position, with lot of scandals humiliation and political chaos. Differences in the approach for Brexit in British society and Europe countries seems to remain in disagreement. The consequences for the EU of the fulfilment of each of the two possibilities: the UK leaving the EU or not. Remaining in the EU would intensify the internal problems of the Union. Leaving the EU would present an opportunity for higher degree of integration.

Keywords: Brexit, European Union, geopolitics, globalization, new opportunities.

INTRODUCTION

Brexit is a key event in today's economic and political environment in Europe. Following the announcement of the final results of the historic referendum held on 23 June 2016 for Britain's EU membership, then Prime Minister David Cameron resigned. He is succeeded as Prime Minister of the United Kingdom on 13 July 2016 by Teresa May, who to this day, three years later, on 7 June 2019, also vacates the leadership post in the Conservative Party, and thus the Prime Minister's post. Her prime minister's mandate will be remembered with turbulent turmoil, political chaos, humiliation in the House of Commons, resignations of cabinet ministers, battles in the British Parliament and in Brussels at meetings of the European Parliament and European Commission dedicated to Britain's exit from the EU. Teresa May's attempts to push through the British Parliament a last-minute draft version of a law on leaving the EU, containing several more concessions to Brussels, have failed and she has lost all political support. Thus, three years after the historic referendum, insecurity continues to escalate around the Brexit issue and Britain is at a crossroads. Boris Johnson hired by Teresa May will have to find a solution to the deep divide among the people and the parliament created by Brexit (see Sylvia Trifonova, 2019).

THE WORLD AFTER BREXIT

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After Brexit was expected, a question of the direction of further development that will be put first and foremost in the UK itself, which has chosen the "leap into the dark"[2], if we use the words of former Prime Minister David Cameron on the eve of the Euro-membership referendum. The United Kingdom will face extremely difficult and complex internal and external challenges (see Nikola Avreyski, 2019).

We are unaware if we have a British political elite and the elbow of British diplomacy will have two maximum advantages: support for national sovereignty, ie understanding that the UK is a great power with global interests that has the resources it needs to successfully play its part in destiny (see Nikola Avreyski, 2018).

But the sense of British self-sufficiency is rooted in a long overdue British era and does not fit into the continued relative decline in British economic power. Britain's share of international trade, merchant shipping, investment in other countries and gross domestic product continues to shrink dramatically[3] (see Paul Sharp, 1998). As noted by the famous British historian Jeremy Black, all the post-war United Kingdom prime ministers "have definitely failed to give up the expensive habit of viewing Britain as a major international player"[4] (see Jeremy Black, 2008).

Even now, before Brexit is completely over, there are enough reasons to believe that after the divorce the United Kingdom will consume major negatives. Some of them will be related to economic development. Brexit has the potential to bring Britain to the brink of an unprecedented economic crisis, which heralds much more severe consequences than the 2009 depression. Ever since the EU membership referendum of 2016, many companies have canceled their investment plans in the UK due to high uncertainty. In 2018, the UK recorded the lowest economic growth in the last six years - just 1.4 percent, as well as four consecutive quarters of declining investment - an unprecedented black series since the international financial crisis. According to consulting company Ernst & Yung[5], which monitors the behavior of 222 of the UK's largest financial services companies since the referendum, 80 of

[2] British former Prime Minister David Cameron has warned that the UK risks an uncertain “leap into the dark” by exiting the European Union.

[3] A University of Minnesota political scientist, Sharp points out that Thatcher was both an enthusiast of global economic liberalism and a champion of the nation-state, and he believes that this apparent contradiction provides a recipe for statecraft in the post-Cold War era.

[4] Jeremy Black’s vigorous and fascinating study tells the story of a group of islands, their people, and their remarkable impact on the rest of the world. From the earliest pre-history right up to the present day, this stirring account describes the astonishingly varied stages through which the British Isles have passed to achieve their current identity.

[5] Since the EU Referendum, UK Financial Services Firms have disclosed **£1.3bn of relocation costs, legal advice, contingency provisions, plus an additional £2.6bn for capital injections to scale new non-UK headquarters.**

them have already transferred or intend to outsource some of their staff, operations and operations by early 2019. assets from the UK to the EU and have already hired 2,000 people in Dublin, Luxembourg, Frankfurt and Paris.

THE GENESIS OF THE BREXIT PROBLEM

A number of analysts point to Brexit's deep rootedness in social fabric. Graham Wilson, for example, makes a comparison between Brexit and the presidential campaign and the election of Trump in the United States. Both phenomena, according to Wilson, reveal the deep divide between proponents of economic nationalism and cosmopolitan liberalism[6].

Most ideologists of the status quo condemn "populism" and "nationalism" as irrational forces seeking to destroy the rational world order and Brexit as part of their sinister endeavor. But, as Jonathan Hopkin extensively demonstrates in his article, "rather a failed political consensus, rising inequality and a decline in the representativeness of political elites than reviving intolerance and xenophobia are the main reasons for voting in favor of Brexit." The victims of economic liberalism respond with "a powerful and even violent rejection of mainstream political elites and their values" (see Jonathan Hopkin, 2017)[7].

Moreover, as Chris Bickerton points out, the single European market does not imply a uniform pattern of economic growth. Individual countries are distinguished by their specific economic models. The British is based on a rapid expansion of the labor market, based mainly on the influx of workers from outside. This implies low productivity growth and systematic wage pressures that inhibit their growth. Brexit is therefore a fierce rejection of precisely this pattern of economic growth, in which labor immigration directly damages the interests of British workers. "Comments on Brexit and immigration have focused on xenophobia and racism, but the core of the problem lies at the nature of the British growth model" (see Chris Bickerton, 2018)[8].

[6] Professor Graham Wilson has analysed Trump and Brexit. The unexpected victories of Donald Trump in the United States 2016 Presidential campaign and of the Leave campaign in the British referendum on membership in the European Union have important similarities in terms of campaign strategy, rhetoric and social bases of support. They are exemplars of a wave of right-wing populism that has swept across advanced democracies.

[7] After the Brexit vote in June 2016 was followed by the unexpected victory of Donald Trump in November, an emerging theme amongst the commentariat was that the combination of economic stagnation, immigration, and a wave of terrorist attacks was driving politics to the populist right in western democracies.

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THE IMPLICATIONS OF A "HARD BREXIT" (LEAVING THE EU WITHOUT AGREEMENT)[9]

A study by research firm Cambridge Econometriks shows that 500,000 UK jobs will be at risk at "hard Brexit"[10] (see https://www.london.gov.uk). The British business will also suffer serious damage in connection with the introduction of duties on British companies when trading with the EU and the loss of the license of British airlines to fly in Europe.

The results of the referendum on UK membership have led to a similar choice and another part of the United Kingdom, Northern Ireland, voted to remain in the European Union. The most difficult to negotiate in the EU exit agreement was the future of a common border with the Republic of Ireland. The United Kingdom has been forced to accept a commitment to keep trade across border with Ireland. If implemented, this rebate, perceived by many Britons as Northern Ireland's "customs annexation", will undoubtedly give impetus to the aspirations of reunification in Ireland - a just cause that both Republicans in Northern Ireland and the Republic of Ireland will continue to fight for. Republic of Ireland.

In the same situation, voters in favor of staying in the EU were Scotland. The risk of Scotland dropping off with its 5 million population and one-third of Britain's territory, where most of Britain's oil revenue comes from, and where the UK's nuclear base is located, was real in the 2014 independence referendum year. Despite their defeat, Scottish nationalism continued to flourish under the banner of Free Scotland in United Europe. Following a nationwide decision on Brexit, Scotland's First Minister, Nicolas Sturgeon, called for a new referendum on Scotland's independence, arguing that the Scottish and British will be diverging on the issue so important to their countries' present and future.

[9] Brexit can take many forms. Different forms should be envisaged as a spectrum with 'Soft' and 'Hard' being two possible points on it. When people talk about Hard Brexit they envisage an agreement where the UK would leave not only the EU but also the EU's Single Market (of which non-EU countries are also members) and the EU Customs Union (of which non-EU countries are also members). The UK would instead aim to secure a free trade deal with the EU, ideally covering both goods and services. In a Hard Brexit situation, the UK would not have to sign up to free movement of EU nationals, or be subject to the European Court of Justice. It would probably not have to contribute to the EU budget. It would also be able to sign free trade deals with other countries. However, the UK is unlikely to be able to sign a free trade deal with the EU or other countries before it leaves the EU in 2019 – negotiating trade deals usually takes many years. Unless a transitional deal with the EU is reached, it is quite likely that for a period of a few years the UK would have to trade with the EU and other countries under World Trade Organisation rules. This is expected to have a negative impact on the UK economy.

[10] According to expert independent economic analysis commissioned by the Mayor of London, Sadiq Khan, a no deal hard Brexit could lead to a lost decade – or even longer - of significantly lower growth, with the country potentially having 500,000 fewer jobs in the worst-case scenario and nearly £50bn less investment by 2030 than would otherwise have been the case.In London alone, there could be as many as 87,000 fewer jobs and the capital's economic output could be two per cent lower by 2030 than predicted under the status quo.The findings are in an analysis of the potential impact of five different Brexit scenarios on London and the whole of the UK, commissioned by the Mayor last year from leading economic analysts Cambridge Econometrics. The document also looks at the impact each Brexit scenario could have on nine key sectors of the economy.The independent research shows that every Brexit outcome analysed would be bad for the British economy, but that the harder the Brexit, the more severe the economic damage could be.

Even England itself was deeply divided. The capital city of London votes to remain in the European Union. Other dividing lines in English society have emerged quite clearly - between the young, overwhelmingly wanting to remain in the EU, and the older, long ago, Brexit preferences, as well as between those educated with their Euro-optimism and not educated with their Euro-pessimism (see Nikola Avreyski).

"NOW WHERE?"

Taking the path of parting with the EU, the British will undoubtedly rely on their "special" ally, the US, as most of them are convinced that "the problems always came from Europe and the solutions came from America." But in the US, they have long been looking down on their former metropolis. Even during Margaret Thatcher's reign, the most respected US futurist, Alvin Tofler, criticized English executives for misunderstanding that "the British force has suffered inflation". At the end of the twentieth century, Prof. Zbigniew Brzezinski categorically stated that "Britain is not a geostrategic player"[11] (see Zbigniew Brzezinski's book "The Grand Chessboard: American primacy and its geostrategic imperative", 1997). And at the beginning of the 21st century, Thomas R. Reed, the head of the London Post of Washington Post, paid special attention to the fact that "Britain is not aware of the role it has been given in the modern world". To this should be added the obvious decline in US influence in the world since the beginning of the 21st century. Yet, at first, London can count on real help from Washington. There is no doubt that there will indeed be a deal between Washington and London, but it is unlikely to compensate for the financial, commercial, economic and political damage since leaving the European Union.

The "divorce" of the United Kingdom with the United Europe will undoubtedly have a serious impact on the balance of power in the most important geopolitical format of our time - the G20. The uniting of the Anglo-Saxon countries (USA, UK, Canada and Australia) and the EU countries (France, Germany, Italy and the EU as a whole) in this club will help consolidate the third pole in it - the BRICS countries (Brazil, Russia, India, China, and the Republic of South Africa) and will create greater room for maneuver for the other G20

[11] Zbigniew Brzezinski's book "The Grand Chessboard: American primacy and its geostrategic imperative" serves as a blueprint for 21st century U.S. foreign policy. In the book, Brzezinski, a former National Security advisor to President Jimmy Carter, argues that Eurasia is the keystone to America's future as the world's first and (according to Brzezinski) possibly last global superpower. Eurasia is thus the geography-based chessboard upon which the "Grand Game" is to be played and Brzezinski's premise is that the United States and its allies are competing for global hegemony against other coalitions and major powers – principally Russia, China and Japan. Brzezinski states.

participants (Japan, South Korea, Turkey, Mexico, Argentina, Indonesia and Saudi Arabia) (see Nikola Avreyski).

CONCLUSION

Differences in approaches to Brexit, both in British society and between the UK and the 27 EU Member States, persist and remain irreconcilable. It is also believed that the realities in the House of Commons also do not change significantly, unless a party manages to provoke a general parliamentary election, which in practice will turn into a sort of second referendum on Brexit. In the meantime, after several consecutive extensions of the term for approval of the "divorce agreement" and termination of its membership, the UK remains in the EU and continues to fulfill its obligations as a Member State.

The EU no longer seems to want to spend time discussing and negotiating the problems arising from the idea of Brexit. If London continues to give the impression that it does not know what it wants or its parliament is simply unable to provide a consensus on the practical implementation of the idea, this reluctance is likely to deepen further and complicate the process. It is quite possible that the successive extensions in Brussels of the specific dates for leaving the EU (the so-called "Brextensions") will gradually grow into a lasting mechanism for an indefinite intra-EU review of the Brexit concept. The political and diplomatic experience gained in analyzing it can become a kind of model for the treatment of other such attempts by one or another EU Member State in the future.

The UK can indeed remain a 'de facto' full member of the EU for a long time. Thus, it could even receive a few more special privileges for its EU status, which London has long enjoyed. In this context, it is important to remember that the British Parliament excluded, by explicit decision, the possibility of "leaving the EU" without its approval of the "divorce agreement", ie. The "default zero option" so far remains under parliamentary ban. Against this backdrop, the statements by some prominent Conservative party members that on 31 October 2019 Britain should exit the EU, even without an agreement approved by Parliament, seem too disrespectful to the will expressed by the House of Commons in London. The option to approve a "divorce agreement" agreed with Brussels for a long time can no longer be approved. In addition, the option of reaching a compromise inter-party deal through which the agreement with Brussels can be indirectly ratified also does not receive the support it needs.

In practice, the only option left is to formally withdraw Lodz's 2017 request to activate Article 50 of the Lisbon Treaty, leading to Britain's remaining in the EU. Of course, for the

sake of clarity, this step could be preceded by a "second referendum" on the idea of Brexit or a "confirmatory referendum" on a compromise deal (see Radoslav Deyanov).

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A Review of Type 2 Diabetes Research Studies in Albania: Further Information and Implications for Future Nurses

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ABSTRACT: The number of people with type 2 diabetes is steadily increasing worldwide and in Albania. An essential part of diabetes care is self-management skills of patients as well the help and support of nursing staff for better management of the condition. A review of several researches done in Albania on diabetes, will help us to provide resources for health care professionals as well for nursing students. The electronic research included the database of Ovid PubMed, Google Scholar, and Medline with Full - Text articles in English. This review explores type 2 diabetes in terms of studies, objectives and relevant findings in Albania without time limit. The study results showed that research about type 2 diabetes in Albania was very limited. Most of the articles published were focused in the prevalence of diabetes and carried out in Tirana. Very limited research was identified regarding the control and management of risk factors among Albanian diabetic adult patients. Only one article analysed the knowledge and behaviours of nurses in primary care toward diabetes mellitus risk factors and management. Raising awareness for type 2 diabetes even though research is essential to the creation of reliable and continuous sources for disease prevention and self-management not only in patients but also to increase the provision and uptake of diabetes self-management education among health care providers.

Keywords: type 2 diabetes, research, review, Albania, health care professionals.

INTRODUCTION

Globally, the number of adult people living with type 2 diabetes is increased significantly and is a reflection of increased risk factors and poor management of the disease (WHO, 2016). Type 2 diabetes is a chronic disease characterized by elevated levels of blood glucose referred differently as non-insulin-dependent diabetes (American Diabetes Association, 2009). Diabetes is an important public health problem, one of four priorities no communicable diseases (NCDs) targeted for action by world leaders. According to the data from 2012 and after in Tirana, Albania the prevalence of diabetes was 11.5% and higher among lower educated adults compared to young people and also in the worldwide diabetes caused 1.5 million deaths (Bregu *et al.*, 2012). People first diagnosed with diabetes experience psychological changes as anger, emotional distress and depression. Diabetes distress is a negative emotion faced by persons who are diagnosed with diabetes related to glycemic

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control (Dennick, Sturt & Speight, 2017). Diabetes distress is an emotional response to the life-changing related to diabetes. It is distinct from depression and is a product of emotional adjustment that a person with diabetes experiences. In addition, diabetes distress has been found to be significantly associated with Glycated hemoglobin (HbA_{1c}) level and with the adoption of self-care behaviors (Pouwer, Kupper & Adriaanse, 2010). The majority of people with diabetes are affected by type 2 diabetes. This used to occur nearly entirely among adults, but now occurs in children too. In the future, cases of diabetes will rise the most in low- and middle-income countries (Lees and Leath, 2015). Literature review aims to identify further information related with type 2 diabetes and implications for future nurses.

METHODOLOGY

Search procedure

Systematic electronic search for articles published without time limit included the online libraries of Ovid PubMed, Cochrane Library, NLM Tools. The key words used referred to further information on type 2 diabetes and implications for prospective nurses. In terms of language, only English-language articles were included in the study. Checking for final inclusion of articles was performed independently by the authors in order to reduce errors. The search was conducted in accordance with the systematic literature review guidelines (Higgins & Green, 2008)

Criteria of the inclusion and exclusion, categorization and synthesis of the data

Dissertations and book chapters were excluded from the search. The inclusion criteria were published studies on type 2 diabetes thematic, further information and implications for future nurses including systematic reviews of the literature. The search process resulted in the identification of more than thirty potential articles but included in the analysis the original results of six studies related to the topic of interest. Quality of assessment was performed using the quality assessment criteria (Kmet *et al.*, 2004). Categorization completed; for the first author and year of publication of the article, the main method and results. The application of meta-analysis was not possible due to the heterogeneity of the method. However, the analysis focused on identifying further information and implications for future nurses. Articles were sorted by year of publication.

RESULTS AND DISCUSSION

The results included the analysis of six studies. Most of the articles published were focused in the prevalence of diabetes and carried out in Tirana. (Table 1).

TABLE 1
Panorama of data analysis

Author(s)	Method	Main results
Shapo et al. (2003)	Cluster sampling was used to select 700 households including 1540 adults 25 years of age and over in Tirana City, Albania in 2001.	Of respondents, 3.4% were known to have diabetes, and 2.9% were newly identified through the survey. The prevalence of diabetes increased with age, although among men there was a slight decline after age 65. Impaired glucose tolerance was found in a further 2.9% of respondents
Themeli et al.(2006)	We surveyed 50 primary care nurses in 10 health centers in northwestern Albania located in two cities in Lezhe and Shkoder). The data was collected over five weeks and was analyzed using descriptive analysis.	The majority of the surveyed nurses could identify common risk factors for diabetes type 2 and had positive attitudes toward diabetes risk reduction. However, <62% of the respondents could correctly answer questions about evidence-based recommendations for diabetes mellitus type 2 risk reduction. This sample of Albanian nursing professionals lacked knowledge critical to providing guidance to individuals with or at risk for diabetes.
Ramaj, Kamberi & Behrens (2019)	The experimental study took place in Albania and overall, 200 type 2 diabetes randomly patients were enrolled (in both groups, intervention, and control) treated with oral medications, having levels of Glycated hemoglobin HbA1c > 6.5% as well the absence of associated diseases such as dementia and psychiatric disorders.	Mean age of patients in intervention and control group was respectively 54.03 ±9.57 and 55.82 ± 7.86. Before and after health education PAID 5 scores for the intervention group were respectively 11.3 vs. 8.75 while for the control group 11.9 vs. 11.35, p = 0.018. Levels of HbA1c% before and after education for the intervention group were 7.02 vs. 6.2 while for the control group 6.9 vs. 6.8, p = 0.001. Positive and significant correlation (r = 0.321, p = 0.001) was between level of emotional distress and the age of the patients
Bregu et al.(2012)	Systematic review of literature.	DM control and management means more than just keeping the plasma glucose level under control. The successful management and control of DM requires a multidisciplinary approach and, besides pharmacotherapy, the patient education regarding self-management behaviors is essential in this regard.
Kraja et al (2016)	Cross−sectional study in Albania. The study conducted in 2012 including 12,554 men and women aged ≥35 year. Information on socio-demographic characteristics (age, gender, education, employment status, residence) and lifestyle factors (smoking and alcohol consumption) was also collected.	Overall, the prevalence of chronic diseases in this population-based sample of Albanian adults was 2864/12554=22.8%.Upon multivariable adjustment for all covariates, positive correlates of chronic conditions were older age (OR=6.0, 95% CI=5.3-6.8), female gender (OR=1.2, 95% CI=1.1-1.4), residence in coastal areas of Albania (OR=2.0, 95% CI=1.7-2.5), unemployment (OR=1.8, 95% CI=1.6-2.0), low education (OR=1.6, OR=1.3-1.9) and current smoking (OR=1.2, 95% CI=1.1-1.5). Conversely, there was an inverse association with poverty (OR=0.8, 95% CI=0.7-1.0).

TABLE 1 (continued)

Author(s)	Method	Main results
Lashi et al. (2018)	Cohort study in Albania who participated 810 patients of Health Centre Nr 1 in Tirana. The study was conducted through 10 months' period.	From 810 patients, 617 of them shown an improvement of the glycemic level data (median = 24 mg/dl; IQR: 14 – 50 mg/dl), and the other 193 patients have shown no improvement (n = 11) or aggravation (n = 182). The data showed that the patients that have shown improvement has diabetes type 2 (33%) The difference between 2 those groups were insignificant (p = 0.075). The data of glycemic levels shown a significant decreased of 19% of basal glycemic levels (128 ± 31 vs. 158 ± 55 mg/dl: p < 0.05) at the end of the study, and decreased of glycemic levels was visible especially after the first month of the study, in both groups male and females.

Population growth and ageing have caused the rise of diabetes prevalence. According to a study of worldwide trends in diabetes, since 1980 the number of women with the disease has increased by nearly 3.0% (NCD Risk Factor Collaboration, 2016). Systematic study of literature regarding the identification of the factors that affect the type 2 diabetes were age, education, gender, employment status, residence; and lifestyle factors smoking and alcohol consumption. A special importance is devoted to a study nursing care. The attention is more concentrated on prevalence.

CONCLUSIONS

The study results showed that research about type 2 diabetes in Albania was very limited. Most of the articles published were focused in the prevalence of diabetes and carried out in Tirana. Very limited research was identified regarding the control and management of risk factors among Albanian diabetic adult patients. Only one article analysed the knowledge and behaviours of nurses in primary care toward diabetes mellitus risk factors and management. Raising awareness for type 2 diabetes even though research is essential to the creation of reliable and continuous sources for disease prevention and self-management not only in patients but also to increase the provision and uptake of diabetes self-management education among health care providers. Patients that were diagnosed with type 2 diabetes have shown disorders emotional.

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The Impact of Leadership Styles of Managers on High School Administration: Analysis of Vlora Region

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ABSTRACT: This study aims to identify the leadership styles of high school headmasters and the job satisfaction among teachers under the principals' administration. The research was also focused on the impact of leadership styles on school administration. In the meantime, the study intended to determine the extent to which teachers were involved as school actors in decision-making. The questionnaire survey method was used to collect data from a sample population consisting of 87 high school teachers from Vlora district in Albania. Data analyses were facilitated by the statistical package for social surveys (SPSS) version 16. The research found out that the democratic leadership style was widely used by high school headmasters. Teachers were involved in decision-making but were not involved in setting the agendas for staff meetings or other administrative tasks. The results show that the leadership styles have significant relationship in the teachers' job satisfaction.

Keywords: leadership styles, school administration, high schools, job satisfaction.

INTRODUCTION

In Albania the number of schools is going up because the demand for educations is ever increasing. This means the number of more school administrators is also increasing. Most of the school administrators are promoted from the teaching staff to become deputy headmasters and eventually headmasters. No formal orientation training is offered to the newly appointed administrators. Actually, Institution for the Development of the Education is implementing a promontory course for school headmasters, without specification in education levels. Research has revealed that leadership plays an important role in school effectiveness. Moreover, principals strongly shape the conditions for high-quality teaching and are the prime factor in determining whether teachers stay in high-needs schools. Leadership is not just a group of theories vs. practice. Effective leadership is an important asset to an organization. However, the leadership style of the school is also an important factor in school effectiveness to ensure effective school administration (Salfi et. al. 2014). Research by Eyal and Roth (2011) found out that leadership styles play a significant role in teacher motivation and student achievement. In Vlora not much research has been done on school headmasters' leadership and their impact on school administration. Research on leadership styles and its impact on effective school administration have been done mainly in developed countries (Bass, 1999. Leithwood *et. al*. 2014). This research paper will present the views of schoolteachers in the headmasters' leadership style and its effect on school effectiveness.

Effective education leadership (and style of it) makes a difference in improving learning among all the actors. There is much yet to be learned about who provides educational leadership.

LITERATURE REVIEW

There is a vast amount of literature exploring generic leadership issues. This study concentrates on school leadership, accepting that there are common elements and trends in leadership practice across sectors and much more can be learned from non-educational environments as well. Anyway, the concept of leadership carries many different connotations such as power, authority, management, administration and supervision, vision, leading skills. Leadership is defined as a process in which an individual influences a group of individuals to achieve a common goal (Northouse, 2001); leadership has been defined as use of power to influence the thought and actions of other people. Leaders are able to direct, guide, influence or control the thoughts, feelings and action or behavior of individual to achieve organizational goals (Lester, 1975). In the context of a school an effective leader can influence groups such as teachers, students, community members, policy makers towards achievement of institutional goals.

Leadership Styles

Leadership style of school headmasters plays an important role in effective school administration. As Yukl has phrased it, "most definitions of leadership reflect the assumption that it involves a social influence process whereby intentional influence is exerted by one person [or group] over other people [or groups] to structure the activities and relationships in a group or organization" (Yukl, 2002). A leadership style is a set of leadership activities that influences subordinates or individuals to achieve organizational goals (Leithwood and Jutzi, 1999). Viewing the school as on organization, different leadership styles can be used.

These include autocratic style, democratic style, strategic style, transformational style, transactional style, coaching style, charismatic style and laissez-faire style. Researchers have found out other leadership styles. The emphasis of this study is on school leaders. Leadership is a broader concept where authority to lead does not reside only in one person but can be distributed among different people within and beyond the school. School leadership can encompass people occupying various roles and functions such as principals, deputy and assistant principals, leadership teams, school governing boards and school-level staff involved in leadership tasks.

Autocratic Leadership. Autocratic leaders make discussions on their own without consulting others. Lewin *et. al* (2004) found out that the style resulted in very high level of dissatisfaction. This style is effective if there is no need for others to contribute to decision making and when motivation is not a critical factor in implementing of a decision (Pareek, 2010). Leaders make decisions on their own without consulting subordinates. They reach decisions, communicate them to subordinates and expect prompt implementation.

Democratic Leadership. Democratic leaders involve them in decision making. Democratic leaders, however, may have difficult when options differ widely and it's difficult to arrive at a consensus (Pareek, 2010). The most unique feature of this leadership is that communication is active upward and downward. Democratic style of leadership includes administration by consensus through consultation with the staff, parents, and headmasters informed decisions because of the experience and wisdom of other professionals in and outside the organization. The democratic leader is also known as a consultative leader who reserves the right to make the final decision, holds final responsibility even when delegate authority. All actors of the school including students, staff, parents, and community members have an input in the running and welfare of the school. Subordinates find pleasure and satisfaction in working under this type of headmaster. With respect to statistics, democratic leadership is one of the most preferred leadership, and it entails the following: fairness, competence, creativity, courage, intelligence and honesty.

Laissez–Faire Leadership. Laissez-faire leadership gives authority to employees. According to leadership studies, departments or subordinates are allowed to work as they choose with minimal or no interference. Laissez-faire leaders have minimum involvement in decision making (Pareek 2010). Staff is respectable for the outcome of their decision. These leaders are successful when the people they lead are capable and motivated. In the context of a school, the headmaster will let things happen virtually by themselves. The headmaster does not initiate new innovations, nor does the staff learn from the heads' model. The school operates on the momentum of the staff and the headmaster is reluctant to interfere in the way things are run.

The Concept of Leadership

Reviewing theories, researches and studies on leadership, at the core of most definitions of leadership there are two functions: "providing direction" and "exercising influence." Each of these important functions can be carried out in different ways, and such differences distinguish many models of leadership from one another. As Yukl notes, leadership influences

"…the interpretation of events for followers, the choice of objectives for the group or organization, the organization of work activities to accomplish objectives, the motivation of followers to achieve the objectives, the maintenance of cooperative relationships and teamwork and the enlistment of support and cooperation from people outside the group or organization" (1994, p. 3). Effective leaders try to think through generic and strategic decisions rather than solve daily problems, but there is no perfect leader.

What is Administration?

Many people quickly assume that being a good leader means you're a good manager and vice versa. (Glen. J. 2013). From a broad perspective, administration is a smaller scale and more focused on details than leadership. The leader sets the vision and the broad plan; the administrator executes it and does what is needed to achieve that plan. Key characteristics of administration are:

- A tactical focus on aspects of the organization's strategy
- Executing on specific areas within their responsibilities
- Formulating and enforcing the policies within the institution to achieve its goals
- Directing and monitoring their team to achieve their specific goals

From many definitions given by different authors one may conclude that administration deals with people, their activities, and their interpersonal relationships in an intentionally designed systematic structure.

The role of the Teacher in Leadership and School administration

Teachers are also taking on formal roles and responsibilities for managing and leading in schools. In Korea, "chief teachers" take care of middle-rung supervision. Schools in Norway are gradually organizing their teachers into teams where teacher "team leaders" play a leadership role. In Spain, teachers with a reduced workload take the role of leadership assistants to take care of administrative issues and free principals from this role. Teachers' participation can be used to increase autonomy in decision-making, but even to share responsibilities in leading process.

METHODOLOGY

In this study, it was used the descriptive survey design. The descriptive design was preferred because of the necessity to summarise the views of the subordinates towards the leadership style and the practices of the school headmasters in the daily administration of the schools. A

sample of 87 schoolteachers was selected from Vlora district, working in public and non-public high schools. This sample population was preferred because they were easily accessible and they could provide the relevant data on the leadership styles of their school headmasters. Vlora district was also preferred because most of the school headmasters studied in Public Administration (Master of Science) in Vlora University, Faculty of Education. The purposive sampling procedure included the respondents from different schools from whom data was collected. It was a questionnaire to collect the data. Teachers responded to closed and open-ended questions. The questionnaire enabled teachers to participate in the study without fear of victimization because of assured anonymity.

The research addressed the following research questions:

1. What are the teachers' views on the leadership styles of high school headmasters in Vlora District?
2. How do these leadership styles impact on teacher participation in school administration?

RESULTS

There were more female teachers (68%) participants in this research than males (32%). This could be a reflection of the distribution of male and female population in the urban schools where there tend to be more female teachers than male teachers. The results of this study were not affected by the gender variable.

TABLE 1
Age of respondents

Age	Below 30 years	30–35	36–40	Above 40	Total
No.	17	21	39	10	87
Percentage	20%	24%	45%	11%	100%

According the data given at the above table 1, the majority part of the respondents in this research were between 30 and 40 years old. These were experienced teachers who worked in the same school under the same school head. These teachers provided the data on the headmasters' leadership styles and practices.

TABLE 2
Qualifications of the respondents

Qualification	Bachelor	Professional Master	Master of Science	PhD	Total
No.	34	12	37	4	87
Percentage	39%	14%	43%	5%	100%

Referring to the qualification of the respondents, the majority part of the them were qualified teachers holding a diploma in education, especially from the old system of Bachelor (4 years) which is equivalent with the Master of Science, according the International Standard Classification of education. A minority of the teachers had further qualification in doctoral studies (5%).

Work experience: The respondents with under 5 years of work experience compose the smallest part of the total but even these teachers provided reliable and useful data to this research.

TABLE 3
Work experience

Work experience	Under 5 years	5-10 years	10-15 years	Above 15 years	Total
No.	4	26	43	14	87
Percentage	5%	30%	49%	16%	100%

Years of working in the same school. Most teachers (45%) had worked for more than five years at the same school under the same school headmaster (at least for 4 years). Such teachers could give relevant information relating to the leadership styles of the school headmasters as well as issues relating to school administration.

TABLE 4
Years of working in the same school

Working in the same school	Under 1 year	5-10 years	10-15 years	Above 15 years	Total
No.	5	39	32	11	87
Percentage	6%	45%	37%	13%	100%

Decision making in relation to staff meeting. Most of the teachers in high schools were not involved in setting/discussing of the agenda for staff meetings. However, they contributed significantly to decision making made in the meetings. The heads did not dominate completely their subordinates during the staff meetings, and the meetings were considered democratic.

TABLE 5
Decision making in relation to staff meeting

Decision making	Agree		Neutral		Disagree	
	No	Percentage	No	Percentage	No	Percentage
Teachers contribution to problem solving/ decision making	64	73.5%	11	12.6%	12	13.9%
Teachers involvement discussing/setting the agenda	8	9%	14	16%	75	86%
Strong debates between headmaster and teachers during the meeting	24	28%	11	13%	52	60%
Domination of headmaster during staff meetings	52	60%	9	10%	26	30%

Human relations in school environment. The school headmasters communicated effectively on policy issues to their subordinates. The relationship between the teachers and the school headmasters were cordial. Most teachers indicated that they worked harmoniously with their school heads however some 16% of teachers revealed that they did not work well with their school principals. The research also found out that the school headmasters are involved in resolving conflicts among staff. School principals supervised their subordinates by 70% while a few teachers disagreed with the view that supervision by the school heads was objective. Majority of teachers indicated that the school heads had good human relations with their staff and they equitably distributed resources in their leading institution.

TABLE 6
Human relations in school environment

Human relations in school environment	Agree		Neutral		Disagree	
	No	Percentage	No	Percentage	No	Percentage
Headmaster distributes resources fairly	63	72%	14	16%	10	11%
Headmaster has good relations with staff	79	91%	3	3%	5	6%
Headmaster resolves conflict among staff	56	64%	10	11%	21	24%
Objective supervision by the headmaster	61	70%	8	9%	18	21%
Headmaster – staff working well as colleagues	62	71%	11	13%	14	16%

As the Table 7 shows most school headmasters used democratic *style of leadership*. Few school headmasters (16%) used the laissez faire style of leadership. And the transformational style of leadership tends to be something new. The results of the study reveal that in some schools the principals were autocratic specially in certain situations regarded with structure and positioning; and the majority of respondents could not tell whether the headmasters were democratic or not in these situations.

TABLE 7
Headmaster leadership styles

Headmaster leadership styles	Agree		Neutral		Disagree	
	No	Percentage	No	Percentage	No	Percentage
The headmaster's style is democratic	63	72%	8	9%	16	18%
The headmaster's style is autocratic	22	25%	18	21%	47	54%
The headmaster's style is laissez faire	14	16%	11	13%	62	71%
The headmaster's style is transformational	38	44%	10	11%	39	45%

Before carrying out *supervision the school headmasters* informed teachers according to the DN rules of their impending visit to their classes. Headmasters tend to encourage open communication and create a culture of transparency in the institution. Teachers benefited professionally from the supervision done by the school headmaster knowledgeable of the contemporary methods of teaching, which are keen on innovation, support and encourage initiatives for improvements during the educational process (83%).

TABLE 8
Supervision of the school headmaster

	Agree		Neutral		Disagree	
	No	Percentage	No	Percentage	No	Percentage
Teachers are informed of supervision on time according to D.N.	63	72%	8	9%	16	18%
Headmaster facilitates the professional development of the teachers	58	67%	18	21%	11	13%
Headmaster supervises subordinates subjectively	21	24%	14	16%	52	60%
Headmaster approaches contemporary teaching techniques	72	83	4	5%	11	13%

Most teachers are not involved on allocation of classes to teach, at beginning of the year. Most schools use creative methods to implement the curriculum, to encourage and to motivate new evaluation forms for the students. Teachers have the freedom as to which teaching methods to employ during lesson presentation.

TABLE 9
Teacher's autonomy in curriculum implementation

	Agree		Neutral		Disagree	
	No	Percentage	No	Percentage	No	Percentage
Headmaster forms with the teachers a common understanding on the philosophy of the curriculum	63	72%	8	9%	16	18%
Headmaster creates with the teachers a common understanding of basic competencies, cross-curricular topics	58	67%	18	21%	11	13%
Headmaster forms with the teachers a common understanding of the main ways to achieve the goals of the curriculum	72	83%	4	5%	11	13%
The teachers are involved in the choice of their teaching classes	4	5%	14	16%	69	79%
The teachers are involved in the creative implementation of the curriculum	74	85%	3	3.5%	10	11.5%

DISCUSSION

School leadership has become a priority in education policy agendas across developed countries. It plays a key role in improving school outcomes by influencing the motivations

and capacities of teachers, as well as the environment and climate within which they work. Effective school leadership is essential to improve the efficiency and equity of schooling, people empowering toward an educated society.

Regardless of the fact that most teachers were not involved in setting the agenda for staff meetings, the contribution made by teachers during staff meetings contributed significantly to decisions made by the school principal. Meetings held in co operational environment improved individual member participation. The school headmasters allowed debate among staff members and reached decisions by consensus. School headmasters had good interpersonal relationships with their subordinates. The teachers indicated that the school principal resolved conflict and distributed resources fairly among staff. The school heads supervised their staff effectively and worked well with their subordinates.

Although the majority of the school headmasters were using democratic leadership style, there was evidence of a few headmasters who were considered autocratic and laissez faire. These school heads had negative effect on school effectiveness. It would be in the best interest of the Ministry of Education and Sports to identify such leadership styles schools then use them as examples for other schools during staff development. Many teachers do not find it satisfying to work with autocratic headmasters; they move on to less demanding environments at the first opportunity. Teachers want to feel certain about their ability to meet the goals they have for educational process and their professional growth. Heads of schools informed their subordinates of classroom supervision and contributed significantly to the professional growth of staff. But in terms of teachers' assessment should be considered the subjectivity of the headmasters toward the teachers, because these ones were not satisfied with the assessment criteria. The heads were also considered highly knowledgeable of modern teaching techniques. In decision-making the participatory approach was highly relevant. It was noticed that there was standardization of schemes of work, but not the lesson plans. The teachers were motivated to choose the methods they want to according to the curriculum framework.

Findings

The research helped deduce the following:

- School leaders have to use new forms of pedagogy themselves and they must learn how to monitor and improve their teachers' new practice. Moreover, instead of serving as head teacher they have to become leaders of learning responsible for building communities of professional practice. Classroom supervision by school headmasters was objective and contributed to the professional development of staff

since they were considered highly knowledgeable of contemporary teaching techniques.

- "Effective" or "successful" leadership is critical to school reform. Most school principals used the democratic leadership style while only a minority used the laissez faire and autocratic leadership styles. It is important to contextualize school leadership policies. There is no single model of leadership that could be easily transferred across different school-level and system-level contexts. Depending on the school contexts in which they work, school leaders face very different sets of challenges. Approaches to school leadership styles need to be based on careful consideration of the context in which schools operate and their particular challenges.
- Development of people is another contribution to school efficiency. More-specific sets of leadership practices significantly and positively influencing these direct experiences include, for example: offering intellectual stimulation, providing individualized support and providing appropriate models of best practice and beliefs considered fundamental to the institution.
- School headmasters had good interpersonal relationships with their subordinates and used the participatory approach to decision making.
- School headmasters prepared staff meeting agenda without consulting their subordinates. Teachers participated actively during staff meetings and contributed to decisions made. The school headmasters did not involve teachers in class allocation this can be a source of ineffectiveness in teaching and learning.

CONCLUSIONS

Research about the styles and effects of leadership is becoming increasingly sensitive to the contexts in which leaders work and how, in order to be successful, leaders need to respond flexibly to their contexts. The study concludes that the democratic style of leadership is used in conjunction with the autocratic style of leadership. While the democratic leadership style was widely used by school administrators the Ministry of Education and Sports needs to promote its use in school administration. The overall conclusion considered in these reviews is that school leaders have a measurable, mostly indirect influence on learning outcomes; in school administration and in job satisfaction. This means that the impact of school leaders on all the school actors is generally mediated by other people, events and organizational factors such as teachers, classroom practices and school climate. School leadership can make a difference by creating the right environment for teachers to improve classroom practice.

Research evidence shows that there are specific leadership styles that have greater influence on teaching and learning than others. In practice, however, school leaders can only have an important impact on curriculum framework if they have enough autonomy and support to make important decisions and if their major responsibilities are well-defined and focused on teaching and learning.

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Three Contradictions with EU – Deepen or Ease

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ABSTRACT: After the end of the Cold War, South-Eastern Europe became the most unstable regions in Europe as the spectra of "Balkanization" lingered once again in Europe. Following the Kosovo War, Europe's strategy for this region of Europe became increasingly clear. The possibility of the European Balkan had opened, and Europe had made the regionalization of the Balkans an integral part of its long-term strategy. South-Eastern European (SEE) countries, the "Great Black Sea-rim" and the European Union (E.U.) were moving towards the sustainable development goals of a partnership to promote the process of a substantial institutional divide between South-Eastern Europe and the E.U. Meanwhile, the different attitudes towards trading with China, the controversy of multi-speed Europe and accession progress will be the major challenges in the future. This paper predicts the relationship between the E.U. and SEE countries, as they face challenges. The three contradictions are analyzing historical origins and current relationship between the E.U. and SEE countries.

Keywords: European Union, South-Eastern European countries, China, Accession, Multi-speed Europe.

INTRODUCTION

South-Eastern European (SEE) countries locate in the Balkans, known as the European powder keg. Most of them or predecessors were members of Eastern European Socialist Camp during World War II. In 1990s, the Soviet Union and Yugoslavia were disintegrated in succession. In order to return to Europe, SEE countries emerged from the Soviet model and embarked on independent transition and development. Yin Hong and Wang Zhiyuan (2013) showed that these reformations were likely to the democratic political reforms in preference to the market-oriented economic reforms. And the E.U. is the main external influencer in the reform (James A. Baker, 2002). Among 17 Sustainable Development Goals issued by the United Nations, “partnerships for the goals” is an important one. Therefore, no matter how people slice the relationship between the E.U. and SEE, looking back at where it has been, how far it’s come and where it’s going, there is no question that it is worth following.

However, scholars pay more attention to European integration, the transformation of Central and Eastern European countries, the Europeanization of the Balkans, the E.U. and the Western Balkans, the E.U. and the countries of Central and Eastern Europe. There is a lack of research on the relationship between the E.U. and SEE countries, especially on their contradictions. Hence, this article will summarize the three contradictions between the E.U. and SEE countries and predict how they are going.

THREE CONTRADICTIONS BETWEEN E.U. AND SOUTHEAST EUROPE

Road Controversy: disagreements on Multi-speed Europe

European Commission President Juncker issued “White Paper on the future of Europe-Five scenarios” at the European Parliament on 1st March 2017. One of the scenarios called "Multi-speed Europe" with a promising title:” Those who want to do more, do more.” has attracted much attention. In fact, it is not the first time that the concept has been proposed. Indeed, multi-speed Europe is currently a reality, with only a subset of EU countries being members of the eurozone and the Schengen area. But now it focuses on a “coalitions of the willing”, jointing effort in fields such as defence, internal security and social policies.

However, Europe has formed a “Central-Edge” structure while Southern and Central and Eastern Europe are both marginal and semi-marginal (Zhang Xiaotong & Lai Yangmin, 2018). Some of these countries’ policymakers has been more worried about it after France, Germany, Italy and Spain supported the scenario in the informal talks in France on March 6th which indicated that "multi-speed Europe" would be on the agenda. (Martina Vetrovcova, Sebastian Harnisch and Liu Luxin, 2019). However, the Xinhua News Agency (2017) reported most countries in Central and Eastern Europe and South-Eastern Europe do not fully agree with the concept of "multi-speed Europe". For example, Romanian President Johannes and Prime Minister Grindeanu made it clear on the 7th March 2017 that Romania opposed " multi-speed Europe".

Policy Controversy: disagreements on cooperation with China

On 10th April 2019, Association of Fundraising Professionals (AFP) reported that although EU countries has accounted for over 70% of direct investment in the Balkans, China has also been investing aggressively and heavily in the region over the past six years. Besides the construction of many infrastructure, Chinese banks have also provided large sums of money for relevant projects in SEE countries. As “One Belt, One Road” progresses, China's economic partners are increasing in Europe. Nevertheless, Western officials worry that China is exacerbating divisions within the European Union by enterprisingly courting the nations on eastern and SEE flanks (Marc Santora, 2019). Philippe Le Corre (2019), a senior fellow at Harvard Kennedy School, said China was clearly doing much better in five Western Balkan countries that are not part of the E.U. Meanwhile, he called on Brussels to work hard to get those countries into the fold. FranÇois Godement (2019), a senior Asia expert at the Institute Montaigne in Paris, said "The European Commission suggests that Europe should change track and adopt a set of robust defensive policies, some of which will have an effect whatever

China's response may be." Moreover, the European Commission published the “EU-China, a Strategic Outlook” in March 2019. The document not only calls China a natural partner, but also labels China a "strategic competitor" and a "systemic rival". It is indicated that China makes an unfair treatment of European companies because China has failed to open its markets, and its foreign investment behaviors has weakened the rule of law and damaged human rights. It also makes a list on how to strengthen cooperation in the area of agreement with China and build "more balanced and mutually beneficial economic relationship".

It can be seen the E.U. keeps an eye on commercial intercourse between China and SEE countries. The Government of Bosnia and Herzegovina ratified China's loan guarantee for the Tuzla coal-fired power plant in March 2019, but it was criticized by Johannes Hahn, the European Commissioner for European Neighborhood policy and Enlargement Negotiations. In addition, the Energy-European Commission stated the loan guarantee constituted the national aid which was against the subsidy policies. However, as the E.U., the World Bank and other banks reduce financing for coal projects, more and more Balkans countries are turning to China for capital.

Accession Controversy: disagreements on criteria

For more than 20 years, the countries of South-Eastern Europe have been keen to return to Europe and join the E.U. A statement "The Future of the Balkans" issued by the European Council at the Thessaloniki Summit in 2003 gave a powerful boost to the region to do a series of revolutions on economic and government institutions at the beginning of the 21st century. However, accession negotiations usually take years, and candidates must meet all requirements from the E.U. in the political, economic and judicial areas before they can formally join. Nowadays, expect Romania, Croatia, Slovenia, Bulgaria and Greece, other SEE countries have a lagging accession process in general.

Tian Xiaojun (2018) stated that SEE countries and the E.U also have some differences on issues such as nationality, religion and territorial integrity which is difficult to reach an agreement. The first is the border dispute between the Western Balkan countries. The E.U. insists that candidate countries should resolve their unsolved frontier incidents before joining the bloc and cannot bring them into the E.U. It has pointed out Serbia cannot join the E.U. until it normalizes relations with Kosovo. Secondly, another problem that constrains the accession is the prevalence of corruption and organized crime in the region. Based on E.U. standards, Albania and Macedonia need further reforms in reinforcing law and combating organized crime. Finally, it is the popularity to join the E.U. In fact, not all citizens of the

Balkans support E.U. membership. According to a poll from Faktor Plus, a preeminent pollster in Serbia, more than 50% of voters believe the country should orient itself to the E.U., but a percentage of them choose Russia. And Vladimir Putin remains the most trusted and popular foreign leaders among Serbia.

At the same time, with the advent of European debt crisis, Brexit and refugee problem, a fatigue of E.U. expansion is on the rise. At a EU-Balkans summit in Bulgaria in May 2018, French President Emmanuel Macron said that enlargement has “weakened Europe every time” which reflects the phenomenon. Moreover, the increasingly complex situation and uncertain future in the Balkans shatter citizens’ illusions and arouses public dissatisfaction with the political elite. Every country meets with varying degrees of difficulties in the reform. Many conflicting variables intertwine within the region. Traditional safety problems and non-security problems coexist.

TREND: DEEPEN OR EASE

SEE countries have always had a priority target: join the European integration. “Although the difficulties and obstacles of promoting internal reform and adapting to the "conditionality" of the E.U. are increasing appearing, they still hope that the accession process can be accelerated.” Xu Gang (2019) said,” Furthermore, more and more responsibilities and demands are put forward to the E.U.” It is not difficult to find that opposing "Multi-speed Europe" is for the purpose of seeking equal status as well as avoiding marginalization. Due to limited access to funds, it is important for some SEE countries to emphasize and support the cooperation with China. To some extent, it is also an act of protecting national sovereignty. Similarly, the E.U. faces various risks such as euro crisis, the Ukraine crisis, refugee problem and terrorist attacks, particularly internal contradictions of expansion and deepening. However, the goal of "holding on to the Balkans and preventing these countries from derailing" and the approach of "giving prospects but strict control" have not changed (André De Munter, 2019).

There is no doubt that SEE is not merely part of Europe in the geographic position but also is a hotly contested spot for the E.U. to safeguard. However, if the SEE countries do not receive more commitments and incentives from the E.U., the impetus to reform may be reversed or even disappeared. Then the contradictions between them will deepen and the situation may be out of control. Thus, in the future, the countries of South-Eastern Europe will continue to call on the E.U. to fulfil its responsibilities and stress the speed of accession. Xu Gang (2019) analyzed that the E.U. will maintain "virtual-real combination" policy in a long-

term and strive to regulate the accession to the "speed and passion" result from inner troubles and divergence.

These three contradictions will change with the development of relationship and evolution, however, the disposition towards them is good.

CONCLUSION

In short, the prospects of relationship and its recognition are the cornerstones between the E.U. and SEE countries; the contest between responsibility and obligation will become the new normal in relations between the two sides; reforms of the E.U. and SEE countries will be a principal theme in the relationship in the future.

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Economic Security as the Main Condition for Sustainable Development of the Countries of South-Eastern Europe

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ABSTRACT: Economic security is a prerequisite for ensuring sustainable development of the economies of the countries of South-Eastern Europe. This article aims to assess the state of the economic security of the countries of the specified region. During the study, principles to facilitate the transition to sustainable economic development were formulated.

Keywords: economic interests, economic security, sustainable development.

INTRODUCTION

The search and implementation of an effective model of economic development are the main tasks for reforming the economy of the country towards effective and sustainable development. At the same time, the first place is given to the assessment of the quality of life and the level of the socio-economic environment, as well as the preservation of normal conditions of the reproductive process, ensuring its stability and safety.

One of the key reasons for the unstable state of the national economy is the lack of a system to protect the economic interests of society and the state, as well as the lack of a real effective state economic policy aimed at ensuring these interests. Currently, the solution of these problems is increasingly linked to the concept of sustainable and safe development of the country as a whole and its individual regions. For most countries of South-Eastern Europe, this approach becomes crucial for strategic decision-making in the field of national development. Ensuring the sustainability and safety of the economy is connected both with the level, scale and direction of threats to their economic interests, and with the development of a real system of measures to strengthen the potential of the economy.

RESEARCH METHODS

In the course of the research the methods of systematic, complex, logical and other approaches were used. Methods of statistical research, scientific abstraction, grouping, comparison and structuring, as well as system analysis were also used as tools to solve the tasks set in the work.

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In the course of the research, statistical data on the main indicators of economic development and economic security for the last year were analyzed. The databases of the World Bank and other statistical services were used for this purpose.

INTERDEPENDENCE OF SUSTAINABLE DEVELOPMENT AND NATIONAL ECONOMIC SECURITY

Sustainable development provides for meeting the needs of the present, while not jeopardizing the possibility of future generations to meet their needs. In fact, we are talking about ending, irrational growth in the use of environmental resources. This is difficult to achieve in a world of growing competition, the growth of such current indicators of successful economic activity as productivity and profit. At the same time, the transition to the "information society" ─ the economy of intangible flows of finance, information, images, messages, intellectual property - leads to the so-called "dematerialization" of economic activity: already now the volume of financial transactions exceeds the volume of trade in tangible goods by 7 times. The new economy is driven not only by a shortage of natural resources, but to an increasing degree by an abundance of information and knowledge resources. The specific energy intensity of economic activity continues to decline, although overall energy consumption is still growing.

The concept of sustainable development was formed as a result of the connection of three directions:

- ***environmental***, because one of the main goals of sustainable development is the stability of physical and ecological systems. Ignoring the needs of ecology will lead to environmental degradation and endanger the existence of all mankind;
- ***social***, because it was the awareness of social problems that gave rise to the formation of this concept, aimed at maintaining the stability of the international community and reducing the number of destructive conflicts;
- ***economic***, because long-term economic projects that take into account the laws of nature, as a result, are more effective than projects that do not take into account the possible environmental consequences.

The main condition of the national model of sustainable development is independent economic development, which includes interaction with the world economy through cooperative relations of innovation production and optimal structure of foreign trade turnover. The transition to sustainable development should ensure a balanced solution of the problems

of socio-economic development in the future and the preservation of the natural-resource potential and the satisfaction of the needs of the population.

A specific feature of the transition of each sovereign state is its realization of its national interests (including in terms of ensuring security), and now it also has a simultaneous historical orientation towards a transition to sustainable development. It is quite obvious that the resolution of this contradiction is due to the fact that security must increasingly be realized through development and less through protection, which forces us to find a consensus between a new worldview that is consistent with the idea of sustainable development and the worldview, which until now was based the security of any state through protection.

Currently, in many countries of the world, security is conceived and implemented in accordance with the model of unsustainable development. This traditional orientation in the field of security is facing ever greater difficulties and, in principle, has no prospects, despite the ever-increasing financial and administrative-organizational resources invested in this area of human activity.

The transition to sustainable development presupposes ensuring security in all respects, and universal security, as already noted, is also being implemented on the path of sustainable development. Such a close relationship between the overall (and global) security of the country and the world community and sustainable development determines the features of further human existence.

Therefore the government needs to maintain a high level of economic security, to ensure the protection of the national economy from external and internal threats, so that the country's economy is able to ensure the progressive development of society, its economic and socio-political stability in the presence of adverse external and internal factors.

The stability of the national economy is its ability to withstand external and internal influences, maintain a stable equilibrium and reliability over time. Stable equilibrium is the ability of the system to perform its inherent functions, provided the financial stability of its elements, while ensuring appropriate reliability, which is one of the most important characteristics of the stability of the economic system of the country. At the same time, the economic security is directly related to its financial and economic sustainability, serves as the basis for the economic well-being of the country. Threats to the economic security of the country are due to changes in the external and internal elements of the environment of the country.

The main territorial factors of maintaining economic security are:

- sustainable development of the economy of the country, its social sphere, increasing the gross domestic product and increasing the financial and economic assets of the country;
- increasing the budgetary potential of the country and rationalizing intergovernmental relations;
- participation of the territory in the formation of international markets, the entry of national enterprises into world markets in accordance with national economic interests;
- maintaining production and innovation capacity at a level that meets modern requirements;
- compliance with the requirements of economic security indicators (Kokhanovskaya & Bashirova, 2014).

When the existing regulatory mechanisms do not ensure the stable functioning of the economic system, it can be considered that their level of security is insufficient and there is a need for active influence on them in order to return to a stable state.

Analyzing the various definitions of the essence of economic security, reflecting the diverse aspects of this complex political and economic category, it should be noted that its most important feature, as already noted, is the ability of the economic system to sustainably preserve the basic values of economic, financial, social, environmental and other indicators that provide the basis for its safe functioning.

The main aspects of economic security are the elimination and neutralization of threats to the interests of the state, manifested at the meso, macro and micro levels and hindering the independent, stable and sustainable development of the national economy. For the development of modern civilized society, the management of its security is a limitation that determines the nature and content of other processes, including globalization, integration, modernization, information. In modern conditions, security is associated with such factors as the strengthening of integration relations, information security of society, scientific and technological progress.

The economic security of a country is a combination of conditions and factors that characterize the current state of the economy, the stability and progress of its development. At the same time, this is a degree, on the one hand, of integration with the economies of neighboring countries, and on the other, of national self-sufficiency.

The organization of economic security of the country should include the following stages:

- identification of the composition and nature of threats to economic security and the direction of their action;
- assessment of the expected damage from the action of threats to economic security;
- ranking threats to economic security in importance, time of occurrence, etc.;
- formation and selection of a strategy for ensuring economic security in relation to certain threats;
- definition and implementation of specific measures to ensure economic security.

The scientific literature presents various approaches to the formation of a system of indicators of the economic security of countries and the justification of their threshold values. As a measure of economic security, the system of indicators by Vyacheslav Senchagov was used in this study (Table 1) (Senchagov, 2015).

TABLE 1
The threshold values of economic security and target parameters reflecting the economic policy of the state

Indicators	Thresholds
Economic sphere	
Average annual growth rate of GDP, %	5
Capital investment,% of GDP	25-30
Medium and high-tech,% of export	25-30
Social sphere	
The proportion of the middle class in the entire population, %	50-60
Unemployment rate, %	4
Monetary sphere	
Total reserves, million US dollars	250000
Inflation, %	3-4

In the course of the study, the member countries of the ASECU Youth were analyzed by indicators provided in Table 2 on the basis of Data from the Global Economy Service (2019a, 2019b, 2019c, 2019d, 2019e, 2019f, 2019g).

TABLE 2
Indicators of the economic security of the countries of the ASECU Youth for 2018

	Average annual growth rate of GDP, %	Capital investment, % of GDP	Medium and high-tech,% of export	The proportion of the middle class in the entire population, %	Unemploy-ment rate, % of total labor force	Total reserves, million US dollars	Inflation, %
Thresholds	**5-6**	**25-30**	**25-30**	**50-60**	**4**	**250000**	**3-4**
Albania	3.84	24.89	9.07		13.90	3,588.58	1.99
Armenia	7.50	19.03	10.38	20.00	17.71	2,314.11	0.97
Bosnia and Herzegovina	3.19	21.07	24.87		20.84	6,473.73	1.17
Bulgaria	3.81	20.09	42.20	46.90	5.26	28,375.83	2.06
Egypt, Arab Rep.	4.18	15.27	32.79	5.00	11.44	36,400.24	29.50
North Macedonia	0.24	32.98	58.88		21.55	2,801.85	1.35
Greece	1.51	12.51	27.58	47.20	19.21	7,803.72	1.12
Hungary	4.14	22.70	76.60		3.66	28,002.68	2.35
Lebanon	1.53	19.98	37.61		6.17	55,411.53	4.32
Montenegro	4.70	29.03	23.58		15.46	1,076.53	2.38
Poland	4.81	19.70	56.10	19.30	3.67	113,267.37	2.08
Romania	7.26	24.44	58.20		4.30	44,429.30	1.34
Serbia	1.87	21.00	46.54		13.51	11,906.32	3.13
Slovak Republic	3.19	22.55	70.66		6.76	3,620.88	1.31
Turkey	7.44	30.97	41.79	9.90	10.90	107,657.03	11.14
Ukraine	2.52	20.75	37.56		9.38	18,810.93	14.44
Russia	1.65	24.17	27.96	4.10	4.74	432,730.51	3.68

Based on the data presented, it can be concluded that Egypt, Northern Macedonia, Hungary, Lebanon, Poland, Romania, Serbia, Turkey, Ukraine and Russia have the most satisfying indicators of economic security. Now we can compare the level of economic development of these countries by GDP (Table 3) on the basis of data from the World Bank (2018).

TABLE 3
GDP of the countries of the ASECU Youth for 2018, million US dollars

	GDP, million US dollars
Albania	13,038.54
Armenia	11,536.59
Bosnia and Herzegovina	18,054.85
Bulgaria	58,220.97
Egypt, Arab Rep.	235,369.13
North Macedonia	11,279.51
Greece	203,085.55
Hungary	139,761.14
Lebanon	53,576.99
Montenegro	4,844.59
Poland	526,465.84
Romania	211,883.92
Serbia	41,431.65
Slovak Republic	95,617.67
Turkey	851,549.30
Ukraine	112,154.19
Russia	1,578,417.21

As can be seen from the analyzed data, the higher the level of indicators of economic security of the country, the higher the level of its economic development and GDP. The level of GDP is one of the main indicators of the economic stability of the state and its independence. As mentioned above, only with a sufficient level of economic independence and security will the state be able to begin the transition to the concept of sustainable development. It is the provision of all necessary resources by the state that will help to switch to a green economy, set up production so that further use of natural resources does not harm the environment and ensures that the needs of current generations are met without compromising the ability of future generations to meet their own needs.

CONCLUSION

Summarizing the above, it can be said that economic security is a combination of internal and external conditions conducive to the effective dynamic growth of the national economy, its ability to meet the needs of society, the state, the individual, to ensure competitiveness in foreign and domestic markets, guaranteeing against various kinds of threats and losses.

The economic security of the country should be ensured, first of all, by the efficiency of the economy itself, that is, along with the protective measures implemented by the state, it should protect itself on the basis of high labor productivity, product quality, etc.

The criterion of economic security is an assessment of the state of the economy from the point of view of the most important processes that reflect the essence of economic security. The criterion cannot be taken as a direct guide to action. A flexible approach to its adjustment and implementation is required in accordance with the periodic restructuring of the resource-production potential, the creation of new economic levers, and management structures.

The transition to sustainable development involves the phased restoration of natural ecosystems to a level that ensures the sustainability of the environment and at which there is a real possibility of the existence of future generations of people, satisfying their vital needs and interests. The formulation of a new development strategy means the gradual integration into a single self-organizing system of economic, environmental and social spheres of activity. In this sense, sustainable development presupposes, at a minimum, economic efficiency, biosphere compatibility and social justice with a general decrease in anthropogenic pressure on the biosphere.

Based on the data presented, it can be concluded that the selected indicators of the level of national economic security and economic growth are very susceptible to both external threats and internal errors of the governments of countries. These indicators show the level of economic development of the country, and if for some of the indicators there is a negative trend, then the likelihood of new threats to national economic security is high. Thus, it becomes clear that governments need to change the policy of countering external and internal economic threats. Attention should be paid to measures that will increase the competitiveness of national goods and services in the international market, as well as increase production capacity and reduce their exposure to global challenges. It is also necessary to create favorable conditions for attracting foreign investors to the national market. This will bring production to a new level and make manufactured goods more competitive in the international arena. For the same purposes, it is necessary to revise the policy of accumulation of fixed capital and increase its gross savings. All this will help make national economic security more resilient to all types of threats.

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Corporate Social Responsibility and Its Contribution to Sustainable Development in Romania

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ABSTRACT: One of the most significant charge, which concerns us all is called philanthropic responsibility. Besides its meaning of being a good citizen, it is also based on the idea of giving back to the society by dint of your actions, demonstrating through these ″the love of the fellow human″.

Nowadays the pressure on companies to behave responsibly has increased, that is why this article focuses on the importance of the concept of Corporate Social Responsibility, which as an effect of globalization, is making things bigger, faster and more visible than many years ago. The main aim is to prove that acting responsible, every enterprise can contribute to an efficient development of its country, thus gaining a better reputation and satisfied clients. So, I will try to give an image of how Romanian people try to meet these challenges or even exceed them, as everything around us is in a continuous transformation and so should be our actions. Of late years, more corporations started to understand that to make money is not the supreme objective, thereby through real examples, I want to show their interest in improving the protection of environment and the safety of the products that affect our lives.

Having a place where we can integrate not just financial concerns, but also social, environmental, ethical ones, is an achievable dream as long as there is desire from individuals. Besides its positive influence on the society as a whole, Corporate Social Responsibility is a way to create shared values between the employees and as we already know, they are the core of each company.

Business operations have to be done in a direction which maximize its positive effects and minimize its negative ones on the humankind. Just so, they can contribute to a sustainable development not just in Romania, but worldwide. As people who are living today on this planet, we are responsible for every step we do. This is how the ability to sustain a high quality of life for current and future generations, should be one of the most impregnated in our heads.

Keywords: challenge, philantrophy, responsibility, sustainability.

INTRODUCTION

The concept of CSR has not always been as popular as it is today, because of other periods of time, perceptions and priorities, its importance increasing with the change of generations. People living on this planet are so different, yet so similar. Even our skin isn't the same, even our language sounds weird for others, even someone is eating in the most expensive restaurant and someone else is enjoying his or her last piece of bread, we are still together, sharing this earth, being alive and aware of this gift called life.

For many years, one common denominator of this world is freedom, as nothing can be compared with the feeling of safety near to your beloved ones. But because, day by day, we are in a continuous change process, for this safety we should pay and the price is still rising. Why we pay? Well, because our generation besides the wish of being protected, is characterized by many other specific features. In the era of the restoration of lands, which

were destroyed during World War II, Baby boomers (born between 1946-1964) are appreciated as know-how holders, with narrow focus, but precise knowledge. For them flexible trends were not available, so talking about the term of Corporate Social Responsibility is too early. The same can be told about generation X (1965-1979) which was shaped by the development of technological progress. That is the fact due to what people belonging to this period of time are true individualists with ambitious goals, having simultaneously the ability to feel comfortable with authority. This is how we arrive at that point in time (1980-1994), where the members of the Millennial generation are preparing for their entrance into a complex working process. Now we are facing with practical, optimistic and self-confident individuals, who tend to cooperate with each other, despite of the fact that they are different. Furthermore, because of their ability to easily adapt to new technologies, the Millennials who are the current workforce, are described by Regina L. and Karen M., (2015), as "digital natives" that are using social media to create and maintain their relationships. This is actually the thing they are best at, since now they can see everything: the age of their audience, the number of their followers, the number of searches and the subjects that people are interested in. Thus, the companies activating in our days, can smartly respond to the needs of humanity.

ROMANIA AND ITS POSITION REGARDING OF THE CONCEPT OF CSR

Romania was greatly affected by the communist regime, which transformed its territory into a victim to numerous injustices such as: ineffective institutions, which should actually help people, lack of information regarding all the aspects of human beings, especially the economic one. That is why to change the mindset of people living here, was a big challenge, as the main goal of Corporate Social Responsibility isn't just about the aptness of avoiding that bad executions raised above, also about its talent and competence on improving the society wellness, through its good actions and business activities. Well, it is possible as long as there is a desire and the Romanians had it. Speaking about desires, it's mandatory to mention the entrance of Romania in the EU- a catalyst in the process of spreading new values regarding the tendency of being a responsible citizen, as the findings suggested (Samuel, Abubakar, and Asli, 2004). On these bases, the term of CSR started to flourish to its true importance, because the days we are living in, require not just a usual work schedule, also a proof that future is going to be better than the past. There are so many dark sides connected with business activities, such as: corruption and bribery, violation of human rights and a shameless treatment of natural resources, which can't be hidden anymore. Strange, however, that some don't have the same opinion.

FIGURE 1
Current perceptions in Romanian SMEs about SR

SR offers advantages to us	OR…	SR is not for us
1…. "it's not about donations to community, it is about helping to develop and restore (where the case) resources you use to run your business"		… "it's for big corporations, not for SMEs"
2…. "helps to avoid problems with local community and be a good neighbour"		… "it is way too costly, there are no extra resources to do SR"
3…. "helps to keep employees closer, and ensure they keep focused on the work"		… "if there is impact on stakeholders, it is marginal"
4…. "helps to improve operations and save money on the long term"		… "it doesn't pay off the investment, business can be done without it"

Source: https://www.astoneco.com/sites/default/files/public/downloads/downloads-smart/sme-guide-book-en.pdf.

As it is shown in the table above, extracted from the guidebook that was generated inside the project "Strengthening the capacity of Romanian companies to develop social partnerships-CSR", the current perceptions in Romania SMEs regarding social responsibility are different, as there are still people who think that doing it, is "for big corporations". This is actually one of the biggest problems, as the level of awareness of companies touching the pros of incorporating this term in their daily life is very low. The first thing they think about, when it comes to business, is money, forgetting that is much easier to maximize the benefits that may come as a result of a responsible business. An even more ignored thing is the chance to transform their so called "weaknesses" in opportunities. Furthermore, a responsible corporation is a competitive one, especially in Romania, where the steps in this new world are slower. I guess it is not bad, as long as they are confident.

EXAMPLES OF GOOD PRACTICES IN ROMANIA IN THE FIELD OF CSR

Because the aim of this article is to demonstrate that a responsible corporation can really contribute to a sustainable development of each country, I chose some examples of good practices in Romania, that according to some indicators, express their desire to a brighter future for the world we are living in. These corporations started to think in a sustainable manner, that is why they manage to make money, to keep their customers satisfied and, at the same time, they provide future generations with the same facilities we enjoy.

In order to support the Romanian companies to become friendlier with the concept of CSR and to increase their level of awareness regarding this, in 2013 was founded the agency called The Azores. [1] The services provided by them to national and multinational

[1] https://www.theazores.ro/pages/about-us-basic/.

organizations located in Romania are in the following areas: Sustainability/CSR Strategy, Sustainability/CSR Reporting, Societal Marketing. Usually, they come with a lot of solutions to the most common problems that appear in each company, focusing on those three pillars of sustainability: economic, environmental and social. The Triple Bottom Line theory, developed in 1994 by John Elkington and then explained further in his book "Cannibals with Forks", (1997), defines why a company should also focus on environmental and social aspects, not just on economic ones. It is not easy to implement this new concept, as individuals still do believe that the main reason why a company is working is to make money. Besides, it takes a lot of time and resources as things that are done without a financial reward, are less motivational. The benefits appear in time and when they come (a good reputation through the main competitors, a new potential on the market, and, last but not least, an intensification of productivity), it is obvious that the best view, comes after the hardest climb. Always and forever.

During the 4th edition of the Conference "Best Practices in Romanian CSR" organized this year on 24 July in Bucharest, was presented Romania CSR Index 2019.[2] It analyses the performance and the level of transparency of the companies, which have more than 500 employees and not only. Practically, every company can be a part of this evaluation, as it wants to measure its success by this index. As it is a complex analysis, the index considers the most important references in the field of CSR:

1. Directive 2014/95/EU
2. United Nations Sustainable Development Goals
3. Global Reporting Initiative Standards
4. Dow Jones Sustainability Index

The main objectives of this survey are:

- To recognize the top companies in the CSR fields, these ones being in accordance with international standards;
- To encourage the exchanges of good practices between the companies from Romania and not only, having as a support the international good practice;
- To increase the level of awareness regarding CSR among business people, as they are those who have decision-making power;
- To increase competition between organizations, encouraging more responsible business practices.

[2] https://www.theazores.ro/community-index/.

The analysed information refers to 10 sections among which: corporate governance, issues determined by diversity and a big attention is drawn to the economic, environmental and social impact of the evaluated organization. There are also points related to human rights and anti-corruption policy, responsibility towards employees, investments in communities, supply chain and material aspects. Because this year's evaluation report hasn't been posted yet, I will present the results of the survey on Romania CSR Index from 2018 with the same indicators.

FIGURE 2
Results of the survey on Romanian CSR Index, March 2018

Source: https://www.theazores.ro/wp-content/uploads/2018/02/Flash_Report_Romania_CSR_Index_2018-1.pdf.

As it can be observed, according to the survey on Romanian CSR Index, more companies try to develop CSR activities in areas like social, environment, education, followed by community development and employee support. The category with the biggest scores (13%) is Corporate Governance- CSR Strategy and Transparency, this being a result of many measures taken as: involving employees in the decision process, employees' education and development, existence of a balance between professional and personal life.

Getting new customers with environment awareness means those 12 % of companies whose purpose is to help the place where we live, by an environmentally friendly usage of energy, prevention for pollution, minimizing waste and recycle. Here can be mentioned also: ecological production, products and services, ecological packaging, providing exact information about products and activities.

A very important category, on which it depends the success of every company is that based on people who work for it and in it. Fortunately, top managers and heads of Romanian companies, started to understand that communication and training activities to combat corruption and bribery, prevention of human rights abuses, internal/external reporting

mechanisms, are indispensable for a good function of their businesses. Besides, by integrating these CSR activities in their working environment, benefits like: qualitative employees, creative and innovative atmosphere, motivation leading to productivity or low fluctuation of employees, will not hesitate to appear.

Each company is a part of local community, that's why it is very important for it to reduce its negative influences and to participate on local problem solving, as here happens the process of recruitment of employees and customers. New business opportunities, access to local sources, loyalty of employees and a good image of the company are just few of conveniences that may appear as a result of corporate philanthropy, corporate volunteering or from cooperation with schools and universities.

With a lower percentage, continues "Diversity", because there is a lack of data about the diversity policy that the companies apply and very little information is presented considering the image of women in management positions. But the least trustworthy initiatives are taken when it comes to "Marketing and creating awareness", since the responsibility for ethical promotion is reduced and marketing campaigns incorporating responsible elements aren't enough.

Good news was the fact that this year, the number of reporting companies increased by 20%. There with, in this year's report, the biggest surprise was the diversity of the enterprises involved, as those ones from the public domain, started to invest more in corporate sustainability. So, it is a proof that a growing number of consumers want from the companies existing to be more sustainable and responsive to their needs.

In these years of subsistence, there were some companies which have stood out through their activities. These ones are distinguished by a large number of performance indicators and a plenty of objectives considering their interest in sustainable development. Thus, these can be considered as real examples for the organizations that are less involved in this kind of processes.

So as examples of good practice in Romania are considered:

FIGURE 3
Best results obtained by the companies in 2018 (Romania CSR Index 2018)

Source:https://www.theazores.ro/wp-content/uploads/2018/02/Flash_Report_Romania_CSR_Index_2018-1.pdf.

In 2018, as The Azores confirms,[3] within the conference "Best Practices in Romanian CSR", the most sustainable companies from the whole country are: Coca-Cola HBC Romania and Kaufland Romania with 94 points, which means that their strategy on the market is stronger enough to influence the society economically, environmentally and socially in a responsible manner. Also, this award is a recognition of their efforts, to bring together in a sustainability manner all non-financial information, with a high level of transparency, cooperation and assumption. These are followed by Raiffeisen Bank with 92 points, Omv Petrom, Cez and Telekom, whose results are encouraging since they require constant, transparent and assiduous work. The companies decorated with silver and bronze level are on the right way, and their "homework" is to learn from their superiors, that people, especially those from Millennial generation, seem more eager to buy and to work for responsible enterprises.

HOW DOES ONE OF THE MOST RESPONSIBLE COMPANIES IN ROMANIA PRESENT ITSELF ON THE MARKET?

Firstly, they put in practice the global principles of The United Nations, by being a part of Global Compact Network Romania, which fights for a responsible country.[4] Conceptions like "Businesses should support and respect the protection of internationally proclaimed human rights;" or "Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;", are actions that must be aligned with the activities of the company. Secondly, through their projects, they try to help the society, thinking about future and doing this in a trustworthy, efficient manner. The focused areas are: education, ecology, social, sport and health. For instance, the launch of the book "The Explorer's Manual" aims to remind both adults and children how important is to spend more time in nature, so, it comprises a lot of information about what should contain a luggage, how to read a map or to give first aid. Here can be also listed Kinder land Academy, School Patrol, The K Olympics- all these contributing enormously to the education of the younger generation. Projects like: Ecological education, Bike-sharing are part of the category entitled Environment protection and involve a series of campaigns that help to the process of improving the infrastructure for the use of alternative mean of transport, restoring the destroyed or non-existent green areas, combating natural disasters. Bona DEA is an information campaign on the importance of a healthy lifestyle and seek to expand the quality of life for more than 1400 women in rural and urban areas in Romania, by organizing 84

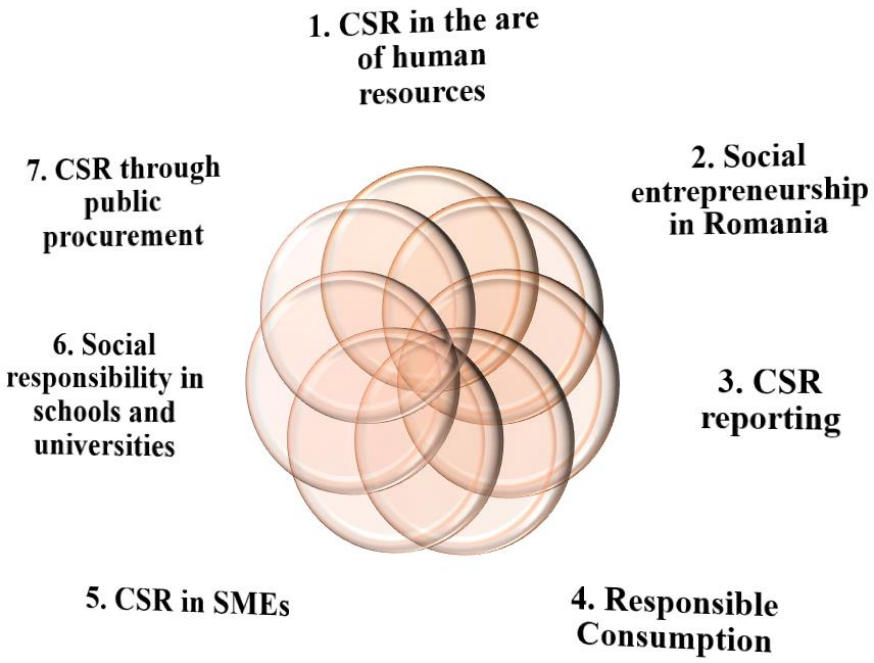
[3] https://www.theazores.ro/wp-content/uploads/2018/02/Flash_Report_Romania_CSR_Index_2018-1.pdf.
[4] https://despre.kaufland.ro/responsabilitate/implicare-in-societate.html#csr-index.

awareness events on the health and rights of women and girls. A space that brings together leaders fighting for an economic environment and a responsible society in Romania is the Embassy of Sustainability, which was inaugurated by The CSR Agency and has as its founding partner the company Kaufland. Among other supported events are "Joy in Movement" where over 70.000 people have been called up to do outdoor sports, "Blood Network" within Untold and Neversea festivals.

UNMET CHALLENGES AND SOME BARRIERS

As it is proved in the book "Corporate Social Responsibility in Europe: United in Sustainable Diversity", there have been identified some really important areas accompanied by problems and barriers in Romania regarding CSR concept. The most targeted are:

FIGURE 4
Social Responsibility in Romania and its barriers



Source: Samuel O. Idowu, Rene Schmid Peter, Matthias S. Fifka "Corporate Social Responsibility in Europe, United in Sustainable Diversity", (2015), p. 389.

In this figure, there are presented the fundamental areas in which should be done some changes if our country wants to enjoy a sustainable future. Of course, the solutions cannot be found without a good cause, that is why, because of a high rate of unemployment among young people (near 22%) and a poor integration in labour of disabled individuals, it goes without saying that CSR in Romania, in the area of Human Resources is very weak. So, creating new jobs for the new generation or being more understanding with people around us, can be some of the answers to this painful question. The topic we are talking about in this

article, is very limited in Romanian schools and universities, due its inflexible education system, that is why subjects like: business ethics, social enterprises, safety of employees or quality, are transformed into big provocations. The new generation has to be educated in a responsible manner as the future of companies is in our hands, but what really happens? We learn that giving is receiving not in classrooms, but in offices attending conferences and they tell us that we are irresponsible teenagers. I really do believe that making a change in this field, will totally transform our society in a conscientious one.

A particular observation has to be made when it comes to talking about responsible consumption, seeing that the resources of the earth are extremely neglected and wasted. The achievement of Sustainable Development Goal 12 can be done just by changing the way we produce and consume, as less than 3 % of world's water is drinkable, of which 2,5 % is frozen in Antarctica, Arctic and glaciers.[5] Doing more with less isn't the big solution, but it's a small step to a better world, where we live within the limit of our planet.

CONCLUSION

Inside the core of every enterprise, there are created those unbelievable plans, then believable solutions and only after that, the first move toward new perspectives. This pulp is composed of the stakeholders, whose opinions should be heard, discussed and implemented in four stages: Plan, Do, Check, Act[6]- between which there is an interdependence relationship. So, each of them has its own role, as during the first one there is elaborated the CSR strategy, followed by giving all the necessary dedication for the realization of the objectives. In the evaluation level, there is reported the company's performance, and that is how the stakeholders' ideas supply a remarkable improvement for company's future.

Arguments, debates, analysis, critiques and researches against CSR were formulated from its first days of occurrence, by both ordinary and business people. The most common reasoning considers that responsible activities distract the enterprise from its main goal fulfilment, which is after Milton Friedman "to increase the profit".

Of course, there are so many unmet challenges as: finding proper solutions to the biggest existing problems or all the issues which are overlooked just because they are not affecting the reputation of the company, but this doesn't mean that we should stop here. When a person invests in an affair, he or she is waiting for something in return, no matter of the process of gaining this "something". A very important thing is neglected in these

[5] https://www.un.org/sustainabledevelopment/sustainable-consumption-production/.
[6] https://en.wikipedia.org/wiki/PDCA.

circumstances- the short way is leading to short fame, that is why, all the people around the world, have to learn that near the verb "to invest", should be added the adverb "responsibly". This means that the process shall include an investment in accordance with the main pillars: Environmental, Social, Governance, if it is wanted a stable financial performance of the company. Romania, Russia, Bulgaria, Poland or Hungary, our future is in our hands and all we do, in all we believe, is based on our actions. Let's take pride in ourselves!

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Business Ecosystem as the Environment for Platform Companies Functioning

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ABSTRACT: This article postulates a business ecosystem as the environment that ensures the functioning and development of platform companies. It provides the ecosystem characteristics, author's definition and model containing such actors as a lead firm, complementors and users of the platform. The manuscript also describes how platform companies being embedded in the business ecosystem create and increase a joint value together with other ecosystem participants.

Keywords: business ecosystem, complementors, platform, platform company, value creation.

ECOSYSTEM DEFINITION

The ongoing changes in the world markets are underpinned by technological advancements of Industry 4.0. One of its phenomena and the focus of the research is an ecosystem with its platforms permeating existing markets or forming the new ones. The introduction of the term "ecosystem" dates back to 1986. It was initially used by the sociologist Amos Hawley. Business environment acquired new understanding of an ecosystem in 1993 due to the work of Moore "Predators and prey: a new ecology of competition".

Kapoor (2018) emphasizes that ecosystems are distinct in their actors' contribution to the focal offer's user value proposition (p. 2).

According to Inoue and Tsujimoto (2018), platform ecosystems form two-sided (or multi-sided) markets, and participants in any group develop derivative items (complementary products) with the platform technology.

According to Adner (2017), "the ecosystem is defined by the alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize" (p. 42).

Adner's definition reflects the key peculiarities of the ecosystem nature, namely alignment, multilateral interactions, set of partners, focal value proposition. Alignment constitutes the mutual agreement among the members having definite positions and flows among each other. Multilaterality entails not only a multiplicity of partners, but also a set of indecomposable bilateral relationships among all members of an ecosystem. The scholar explains a set of partners as actors directly or indirectly linked to the focal firm who have a

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joint value creation effort as a general goal. The value proposition is the foundation of the ecosystem that responds for its boundary, since different actors may have different views on it, i.e. different interests and perspectives (p. 43).

An ecosystem is also defined as a set of actors with varying degrees of multi-lateral, non-generic complementarities that are not fully hierarchically controlled (Jacobides, Cennamo, & Gawer, 2018, p. 16).

When studying platforms, a distinction between a product-based and a platform-based ecosystem should be made. Platform-based ecosystems are orchestrated by the platform owner and comprise two- or multi-sided markets with cross-side network effects, while product-based ecosystems are characterized by mutual determination of the alignment structure by the product firm and complementors and entail a single-sided market interaction between the product firm and the user.

Since there is a focus of this research on platform-based ecosystems orchestrated by platform companies, the ecosystem is to be meant as follows:

An ecosystem is a platform-based community of interdependent actors imbedded freely or on certain conditions for the joint value creation with a core product or service and complementarities.

ECOSYSTEM PARTICIPANTS

Ecosystems vary in their structure and size, because they are dynamic and entail relatively autonomous, modular relationships among its participants. However, there are traditional ecosystem members, such as platforms, complementors and users.

Platforms, actors of an ecosystem that service a foundation for firms to offer complementary products or services. As platform-based ecosystems are orchestrated by the platform owner, it should be noted that platforms, platform owners, lead firms and platform companies are synonymized in this study. Spulber (2018) postulates that entrepreneurs establish firms and firms create and operate markets. He also argues that platforms perform the central role, the role of intermediaries between buyers and sellers, thus, establishing and operating markets. What is not less important market making and intermediation are hallmarks of the platform model, i.e. the presence of such actor as an intermediary is opposed to the traditional equilibrium model (Walrasian and Marshalian approaches) in which prices and market clearing are exogenous. The platform model entails mechanisms for endogenous price adjustment and market clearing (pp. 161–162).

Complementors, i.e. actors producing complementary products and services that contribute to the focal offer's value creation. Complementors are opposed to suppliers when considering the relationship of the firm with ecosystem participants. In case a company interacts with suppliers, it creates a dyadic governance structure. While if there are relationships built between a firm and a complementor, they

- create an alignment structure, usually multilateral, which ensures joint-value creation and mitigates conflicts over value capture,
- agree on the standards for interoperability,
- agree on the respective business models.

Complementors may perform different roles depending on how they contribute to the focal offer's value proposition. They can either have no standalone value, i.e. offer strict or strong complementarity or exhibit supermodular complementarity (Kapoor, 2018, pp. 6–8). Teece (1986) otherwise calls them generic and specialized complements. Therefore,

Complementarities**, or complementary assets, complements, as the key tools to the ecosystem effectiveness and survival are understood as **products or services adopted to the platform's core product or service which create an additional value to all ecosystem participants.

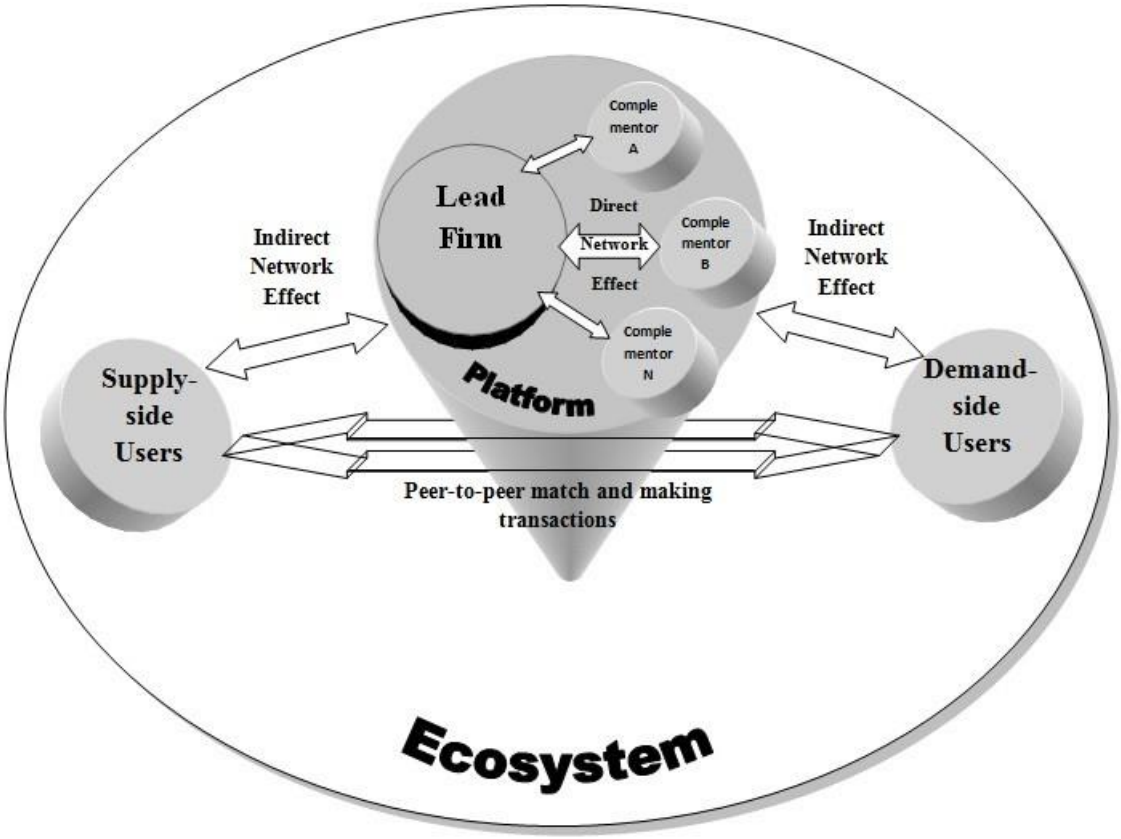
The platform bears relatively little value to its users without these complementary products or services (Cusumano, 2010). There is a dilemma in building the organizational design model of a firm and complementors. There are cases when firms neither buy from nor sell to complemetors. Whereas, firms can coordinate activities with complementors in the form of both upstream and downstream activities.

Users are ecosystem participants extracting benefits of using a platform as a source of meeting their needs. Users in their turn are subdivided into two main categories − supply-side and demand-side users. Supply-side users, i.e. content providers that use platforms to find their customers and supply a product or a service. Demand-side users are consumers of offerings provided on the platform. They can be individuals, businesses, and organizations.

Bottlenecks, i.e. component offers in the ecosystem whose performance, cost, or scarcity constrains the focal offer's value proposition and limits ecosystem growth. There is also a probability that an improvement in one component can exacerbate or mitigate the constraints imposed by other components.

To understand the position of each participant, a platform ecosystem model is provided below (Fig. 1). It is a modeling of a generic platform ecosystem, which has miscellaneous variations in the reality, including less or more complementors.

FIGURE 1
A platform ecosystem model



ECOSYSTEM VS MARKET & HIERARCHY

Gereffi, Humphrey and Sturgeon (2005) formulated five types of global value chain governance, namely market, modular, relational, captive and hierarchy. Opposed to traditional markets and hierarchically managed supply chains, ecosystems are new structures of economic relationships. They are not in line with classical firm-supplier relationships: neither in integrated hierarchies nor in strategic networks. It is postulated that ecosystems have a modular type of governance. Modular type of governance is distinct from other types by a number of features: suppliers in modular value chains make products to a customer's specifications, which may be more or less detailed, take full responsibility for competencies surrounding process technology when providing 'turn-key services', use generic machinery that limits transaction-specific investments, and make capital outlays for components and

materials on behalf of customers. Jacobides et al. (2018) argues that distinct parts of the ecosystem represent organizations that are separated by "thin crossing points", i.e. discrete parts of the production process. While the overarching architecture design parameters may be set by the lead firm, organizations forming an ecosystem have a large degree of autonomy in how they design, price, and operate their respective modules, as long as they interconnect with others in agreed and predefined ways eliminating the strict requirement of networks and hierarchies to be bound by contractual arrangements (p. 8). Along with modular governance, ecosystems have other distinctive attributes, namely:

- ecosystems evolving in life cycles as the interactions among its stakeholders are dynamic and change their infrastructure (Parente, Geleilate, & Rong, 2018);
- they are not isolated, there are multiple dynamic supply chains undergoing shifts due to technological advancements and innovation (Moore, 1993, p. 78);
- ecosystems are "nurtured" by platform's close and regular partnership with its complementors for local providers, consumers, and complementors in different national ecosystems to survive (Rong, Wu, Shi, & Guo, 2015, p. 294).

A detailed comparative analysis of the market, hierarchy and platform as a core of the ecosystem is provided in Table 1 by Akbar and Tracogna (2018).

TABLE 1
Platforms as hybrid modes of governance of economic transactions

Criteria	"Pure" Market	Hierarchy	Sharing Platform
Contract form/Normative basis	Classic (complete) contracts/Arm's length (spot) transactions	Employment contract	Neo-bartering and platform contracts
Scope of exchange	Typically bilateral	Vertical, multi-lateral with one common party	Bilateral, mediated by the platform
Identity of parties	Irrelevant	Relevant	Partially relevant
Means/Intensity of communication	Price/ Low intensity	Authority, internal processes, rules, hierarchical relations/ High intensity	Platform mechanisms, open social networks/ Medium intensity
Exchange period/Uncertainty	One-shot/Low	Unlimited/High	One-shot to long-term (depending on transaction)/From low to high
Monetary incentives intensity	High-powered	Low-powered	Medium-powered
Non-monetary incentives	None, limited	Organizational membership, career advancement, status	Reputation, trust, membership of community
Control intensity	Low	High (administrative system, authority)	Medium (platform-based)

Source: Akbar & Tracogna (2018).

VALUE CREATION INSIDE THE ECOSYSTEM

The success of the firm relies on the value created by it. Building on Porter (1980), the firm owns a more competitive advantage than its competitors on the market, if it creates more value than they do.

Platform participants need to fulfill certain actor roles within the platform for value to be created. These roles should be clearly viewed early in the platform design by a participatory process, despite their changeable nature, as Van Alstyne, Parker and Choudary argue (as cited in Tura, Kutvonen, & Ritala, 2018).

Both users and platform complementors (e.g., third party content providers) are heterogeneous in their motivation and attributes (Cennamo 2016; McIntyre & Srinivasan 2017). Therefore, platform design needs to address the value creation mechanisms, benefits and value functions from each stakeholder's perspective to define value propositions for each (e.g., Le Masson, Weil, and Hatchuel 2009; Van Alstyne, Parker, and Choudary 2016 as cited in Tura et al., 2017). For example, for the customer this can mean money and time savings, and for the supplier (or a complementor) increased brand awareness and access to additional customers.

Discussing the constituent mechanisms of the value created in the ecosystems, they fall into 3 major groups:

1) A core product or products created by platform leaders,
2) A complementary product/complementarity,
3) Network effects.

Adner and Kapoor (2010) underline the significance of innovation in the value creation and capture and claim that innovation depends on the changes in the firm's environment, which 'embed the focal firm within an ecosystem of interdependent innovations'. It relates both to the core product itself and complementarities.

Working on the core product, the platform leader responds not only for matching ecosystem participants, but also 'structures the nature of the product or service', works on its development, maintenance and selling.

Helfat and Raubitschek (2018) view continued innovation as a consequence of information technologies advances fostering inventing new ways to sell new services and miscellaneous complementary propositions.

According to Tura et al. (2017), network effects are a fundamental mechanism of how platform value is created (p. 883).

Thus, several concluding remarks should be made. First of all, it should be emphasized that ecosystems are transforming the classical equilibrium model of markets and hierarchies in which prices are exogenous. Ecosystems in their turn are platform-based communities of interdependent actors imbedded freely or on certain conditions for the joint value creation with a core product or service and complementarities. They are formed by a number of participants – platforms, complementors and (supply-side and demand-side) users – which are relatively autonomous and changeable. Ecosystems are characterized by modular governance. The value of the ecosystem is achieved by 3 major mechanisms, namely a core product or products created by platform leaders, complementarities, and network effects.

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Consumer Right Protection Dilemma of Online Shopping by WeChat in China: Analysis of Questionnaire Survey

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ABSTRACT: In recent years, online shopping and non-cash payment through internet expanded quickly, which is also helpful for green finance and environment protection. In 2018, the number of non-cash payment through internet reached 48 billion in China, while nearly 40 percent of these came from online shopping by WeChat. About 1.08 billion people use WeChat software every day in China, while online shopping by WeChat has become an extremely important channel of online shopping with the daily transaction volume exceeding 1.2 billion. However, there consumer rights damage cases are frequently occurred due to various reasons, and the consumers have to face the difficult situations and challenges to protect their rights. This study is focused on typical online shopping by WeChat models, study the consumer right protection dilemma with special designed Questionnaire Survey and combined with the current situation of protecting rights and the legal situation. According to the research results, we find that there are four reasons for consumer right protection dilemma of online shopping by WeChat: (1) Firstly, there are no special channels for protecting rights; (2) Secondly, the high cost of consumer right protection; (3) Thirdly, It still has problems in the popularization and implementation of E-Commerce Law of the People's Republic of China. (4) Fourthly, there is a lag in regulation. The study is based on the first-hand information through questionnaire survey and focused on the consumer right protection dilemma with the rapid development of online shopping by WeChat in China, Combining the status of rights protection and putting forward solution suggestions.

WECHAT SHOPPING RIGHTS PROTECTION: CONCEPTS AND BACKGROUND

The Concept and Scale of "WeChat Shopping"

WeChat shopping usually refers to the mobile shopping transaction behavior using WeChat platform. However, according to the results of the questionnaire survey, WeChat shopping in this paper refers to the online purchase behavior of consumers through WeChat-business and purchasing agencies.

Based on the data from CNNIC, In 2018, the number of mobile payment users in China reached 583 million, and the amount of mobile payment transactions reached 190.5 trillion yuan, while nearly 40 percent of mobile payment market share from WeChat pay, [2]WeChat payment has become an important part of mobile payment, at the same time, there are more and more people are using WeChat platform for shopping, the appearance of WeChat

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[2] China Mobile payment Industry Analysis report 2019.

shopping makes people's life more convenient. In 2018, about 1.08 billion users in China used WeChat every month, and nearly one-third (31 %) of them used WeChat for shopping.

The Concept and Scale of WeChat-business

WeChat-business, a commercial phenomenon that is gradually developed based on WeChat. The definition of WeChat-business can be divided as narrow sense or broad sense. But this paper mainly discusses the commercial transactions that take place on WeChat platform, thus WeChat-business in this paper refers to the commercial behaviors of selling products on Wechat moments.

The high frequency page views brought by Wechat moments and the advantages of quick trading by direct transfer between buyers and sellers provide WeChat-business with a good development platform. The data shows that, the number of WeChat-business employees in China reached 20.18 million people and the industry size reached 522.55 billion yuan in 2017, and the market size is expected to reach 4.503.97 billion yuan in 2018.[3]

The Concept and Scale of Purchasing Agencies

Purchasing agencies refers to using WeChat as a trading platform to provide consumers with the service of purchasing products with advantages of price and quality (mostly are overseas products) and earning agency fees[4]. Normally, the purchasing agencies will send their location and product information in the moments, and consumers will ask the agency to buy the products as need.

In recent years, the rapid development of purchasing agencies market has attracted the attention of the society, purchasing agencies attracts consumers with its advantages such as low price and varieties product. The sociality and payment function of WeChat platform also promotes the development of purchasing agencies industry, according to the data, the market size of 2018 purchasing agencies shopping has reached 260.1 billion yuan. The Questionnaire Survey data shows that nearly 30 percent of the people in WeChat have more than 5 purchasing agencies.

The Concept and Background of WeChat Shopping Rights Protection

The Concept of WeChat Shopping Rights Protection

[3] Zhiyan Agency. 2018, August 3. “2018 China WeChat Business Market scale shows explosive growth trend” Retrieved July 20, 2019.

[4] Tian, Haowei[田昊炜],Tian, Minghua[田明华],Qiu, Yang [邱洋] 网络海外代购对我国的影响和政策[J].北方经贸,2012,(2):56.

WeChat shopping rights protection refers to the behavior of consumers to protect their rights by filing a lawsuit in the people's court, calling the police and other ways to protect their rights after the transaction disputes caused by WeChat platform shopping.

The Background of WeChat Shopping Rights Protection

According to the data from CNNIC in December 2018, the proportion of online shopping fraud was 35.7% in the survey on the types of online fraud encountered by Internet users(WeChat-business and purchasing agencies selling fake goods, collecting money but not delivering goods and other behaviors are all frauds). And according to Consumers' Association said that WeChat shopping infringement has become a consumer complaint hot spot, and Chongqing Consumers' Association receives at least one complaint every day about online shopping fraud from Wechat moments. Based on the national network consumer complaints database in 2017, which has received by the E-commerce consumer dispute mediation platform, it has complaints that the domestic purchasing accounted for 12.98% of the total complaints, which has increased 1.37% as previous year.

To some extent, WeChat shopping promotes the growth of mobile consumption and better meets the individual needs of consumers. But in recent years, due to WeChat shopping as a new thing still has many problems, the management and supervision of WeChat shopping by WeChat platform and regulatory authorities are inadequate, so WeChat shopping transaction disputes are increasingly serious.

WECHAT SHOPPING RIGHTS PROTECTION: THE ANALYSIS OF COMMON CASE AND PRESENT SITUATION

The Common Case of WeChat Shopping Rights Protection

According to data, the utilization rate of WeChat users' moments is 83.4%, moments can not only share daily life, but also attract many businesses with potential economic benefits, they can advertise their products through WeChat platform, and consumers often reviewed the information in the moments. During the time, consumers able to use WeChat to purchase online from merchants. The business in this paper is the operator that points to WeChat-business and purchasing agencies.

With the rapid expansion of WeChat-business and purchasing agencies scale, There are a lot of fake goods、fraud and other chaotic problems have also aroused the attention of the society. Due to low cost of WeChat-business registration, without real name system credit guarantee, short in supervision etc., the rights of consumers are spoiled, which always have no

method to protect themselves. The price advantage of purchasing agencies and the increasing demand of consumers for overseas products all lead to the rapid development of the purchasing agencies industry, more and more people engaged in this industry. However, due to the irregularity of the industry and the difficulty in distinguishing the true and false of purchasing agencies, the news about fraud emerge in many times.

WeChat-business Common Infringement Cases[5]

Poor quality of product

Miss ran browsed WeChat-business moments, bought 3 discount bags, and transferred 1800 yuan to the seller through WeChat. Then Miss ran received two bags (Worth 1100 yuan), but the most expensive bag worth 700 yuan has not been shipped, as long as January has no delivery information, Miss ran asked for a refund, but the business ignored. Because do not know more information about the seller, and the way to complain, caused the loss of 700 yuan.

Mr. Zhao spent 8,000 yuan on five pairs of high-quality Nike shoes from WeChat-business. After receiving the shoes, Mr. Zhao did not find the relevant quality management inspection label and after-sales service logo, slao the shoes were of poor quality. Then he contacted the seller to inquire about the quality of shoes but received no response. Mr Zhao asks to return money, but the seller says that purchases cannot be returned or exchanged for any reasons and blacklisted Mr. Zhao. Because do not know how to complain and safeguard his rights, cause Mr. Zhao to lose amount 8000 yuan.

The fraud market

This kind of case is mainly shows as the WeChat-business published the award-winning activities of "rich prizes" in the moments, or they will publish the rewards of "finger-guessing game" and "dice" in WeChat moments, which is a trap that wins, loses and draws big prizes. For the customers, if you want to join in the activities, you need to purchase online or other method as they design. Once you finished your payment, you will be deleted the relationship as friend in WeChat.

In the special operation of "net 2019" of Nanjing municipal police department, it was found that a special WeChat-business team was behind the manipulation of such cases. From June 2018 to November 2018, the team made a total profit of more than 5 million yuan, with

[5] From Xinhua News.

17,000 victims.[6]

Without the team manipulation, there are amounts of individual cases has cause losses of consumers. there is a real cases like Mr. Shao lost about 2,500 yuan, Mr. Peng about 2,100 yuan and Mr. Liu up to 30,000 yuan due to they're involved in the activities.

Purchasing Agencies Common Infringement Cases[7]

The seller sold fake goods

The typical case published by Consumers Association shows that Ms. Liu saw the cosmetics information released by the purchasing agency in the moments, guaranteeing the official authorized and a lower price. Ms. Liu then transferred the message to the seller to buy a set of cosmetics, but after receiving the cosmetics, She found that the cosmetics were fake. Ms. Liu wants to contact the seller to return, but the seller has already blacklisted Ms. Liu.

The official authorized purchasing agency is difficult to distinguish

Ms. Yang has added a private business account from Italy via WeChat. The business indicates that he is studying in Italy. Ms. Yang said that since the business usually send some products and foreign life, the seller is believed to be credible. In two years, Ms. Yang transferred the total amount to the seller of 70,000 yuan. However, due to the strange purchase of products in recent, Ms. Yang has identified the products purchased in the past two years, and the results were told that these goods are all fakes. Ms. Yang contacted the seller, but the seller refused to return the goods.

According to similar case analysis on the Internet, many purchasing agencies use virtual locators and are located in foreign countries. In fact, they are deceiving consumers. The official authorized purchasing agencies is difficult to distinguish. Consumers can only fall into fake disputes.

Analysis of Rights Protection Path

According to other real cases on the Internet and questionnaire survey, the four channels used by consumers in WeChat shopping disputes are private mediation, seeking help from supervision departments, filing lawsuits with people's courts, and calling the police. This section will separately explain the difficulties in safeguarding the rights of each channel.

Private Mediation

[6] From the legaldaily news.
[7] From theiimedia news.

Consumers will choose to negotiate with the sellers. A few disputes can be negotiated successfully. However, according to most of cases, if the buyer and seller cannot reach an agreement through communication, the seller will ignore the situation or directly unfriendly the consumer. Consumers do not know the truth of the business information, some choose other ways to protect rights, and some consumers only can passively accept losses.

Seek Help From the AIC and Consumers' Association

There some consumers will choose to seek the help from the Adminstration of Industry and Commerce and Consumers' Association, but most of WeChat shopping is worked as privately traded, and disputes generated by private transactions are difficult to intervene. On the other hand, some consumers have lacked the effective evidence, and it is difficult to obtain evidence. The WeChat-business and purchasing agencies are not under supervision of the AIC, and the Adminstration of Industry and Commerce are still weak.

File a Lawsuit in the People's Court

After a consumer suffers a large loss of property, they will choose to file a lawsuit in court. According to the principle of litigation, consumer rights protection needs to provide evidence. Since WeChat does not belong to the e-commerce platform, which has lots of loopholes. It is difficult for consumers to provide merchants information without the need for real identity registration and the deletion of WeChat chat content. In that case, the consumers normally don’t have the identity evidence and transaction evidence.

People related to the law said that since the WeChat-business and purchasing agencies are not in compliance with the law and are not within the scope of the legal operator, the applicable law is still controversial, and the lawyers indicated that the validity period of case was between 3 to 6 months, and if there is no real information of the defendant or the defendant loses contact, it takes longer. Even if the judgment has a result, the execution cannot be completed because the defendant cannot be found.

Call the Police

Many consumers will choose to call the police, but because WeChat shopping often involves a small amount of money, according to the Questionnaire Survey, 90.82% of the people lost less than 500 yuan, and the police said that WeChat shopping infringement belongs to the telecommunications fraud case, the amount involved can reach 5,000 to file a case. And if you want to avoid your loss, you need call to police within 24 hours. The difficulty in collecting evidence also makes it difficult to obtain good results in such cases.

In summary, no matter what kind of rights protection methods can not fully protect the

legitimate rights of consumers, so that consumers fall into the difficult situation of rights protection.

The Status of Rights Protection in "WeChat shopping"

The following will introduce the protection measures issued by WeChat platform, and interpret the provisions of the *E-Commerce Law of the People's Republic of China* in detail. Through understanding the current status of protection, the paper lays a foundation for analyzing the reasons why consumers face the plight of protecting their rights.

WeChat Platform

WeChat issued the "Standard for the Use of WeChat moments" in 2015, which not only strictly examines users who publish false information and fraud in the moments, seriously even taking the measure of freeze their ID. There are also corresponding reporting and complaint mechanisms for WeChat moments, including reporting illegal information or behavior in WeChat moments. However, WeChat's shopping disputes are still existing, and there are has some successful rights protections case.

On March 8, 2019, WeChat official issued "the announcement on handling the sale of Illegal Prohibited Items on WeChat personal accounts". WeChat team will resolutely deal with violations of laws and regulations and crack down on them severely. From January to March 2019, WeChat penalized more than 2,800 WeChat accounts by verifying user reports. The Illegal Prohibited Items in the announcement includes drugs, medical devices and illegal health products, which restricts the goods which sold by WeChat-business and purchasing agencies, and better protects consumers' rights.

Conditions of the Law

According to the investigation, the *E-Commerce Law of the People's Republic of China* was officially implemented on January 1, 2019. The *E-Commerce Law of the People's Republic of China* is the first synthesis law in China's e-commerce field. This law not only regulates the market order of the e-commerce industry, but also strengthens the supervision of the operators and the clarification of the responsibility of the platform for the e-commerce, and also provide a legal basis for consumers to protect their own rights. At the same time, the implementation of the law has an important positive significance for promoting the healthy development of the e-commerce industry and strengthening the protection of consumer rights.

The law has also introduced corresponding measures for the problems exposed by the WeChat-business and purchasing agencies. The corresponding clauses will be explained in detail below.

Interpretation of the terms

Article 9: WeChat-business and purchasing agencies also belong to e-commerce operators. Article 9 For the purpose of this Law, "e-commerce businesses" means natural persons, legal persons or organizations without the status of legal person that engage in the business activities of selling commodities, or providing services, through the Internet or any other information network, including e-commerce platform businesses, in-platform businesses, and e-commerce businesses that sell commodities or provide services through a self-built website or any other network services. Among them, "other network services" cover WeChat-business, live broadcast and other forms. This clause makes it clear that natural persons who use WeChat's moments to engage in goods and services operations are also e-commerce businesses, that is, WeChat-business and purchasing agencies are also included in the supervision.

On the one hand, this clause promotes the legal compliance of the WeChat-business and purchasing agencies industry. On the other hand, it also increases the supervision of WeChat shopping.

Article 12：Improve the entry standards for WeChat-business and purchasing agencies. Article 12 Where an e-commerce business, in business operation, is required by law to obtain relevant administrative licensing, it shall obtain it according to the law. It point out that WeChat-business and purchasing agencies also need to obtain relevant business licenses to operate legally. This not only improves the entry standards for WeChat-business and purchasing agencies industry, but also changes the situation where the AIC and Consumers' Association can not intervene in consumer rights protection without a business license. At the same time, after they settle related business licenses, businesses have deceived or blacklisted consumers, changed accounts to evade responsibility, they will be investigated for legal responsibility according to law.

This article improves the entry standards of WeChat-business and purchasing agencies industry, promotes the legal operation of business, protects the rights of consumers, and also plays a strong supervisory role.

Article 14、53、59：Strengthen the protection of rights. Article 14 An e-commerce business shall, when selling commodities or providing services, issue hard-copy or electronic invoices or other documents on purchasing commodities or receiving services, according to the law. An electronic invoice shall have the same legal effect as a hard-copy invoice. Article

53 When providing electronic payment services for electronic commerce, the electronic payment service provider shall comply with State regulations and inform the user of the functions, methods of use, precautions, related risks and charging standards of electronic payment services, and shall not attach unreasonable transaction conditions. The electronic payment service provider shall ensure the integrity, consistency, traceability and non-tampering of the electronic payment guidelines. Electronic payment service providers should provide users with free reconciliation services and transaction records for the last three years. Article 59 E-commerce business shall establish convenient and effective complaints, reporting mechanisms, public complaints, reporting methods and other information, so as to accept and deal with complaints and reports in a timely manner.

In the past, WeChat shopping could only be used as evidence of rights protection through chat and transfer records, and if chat records were deleted or relevant evidence could not be produced, consumers would not have valid evidence to defend their rights. Now e-commerce business need to provide transaction notes, consumers can find transaction records through WeChat platform, which solves the problem of difficult evidence collection. The particularity of WeChat-business and purchasing agencies makes it impossible for consumers to complain, but the provisions of Article 59 emphasize the requirement of constructing complaint channel. Consumers can protect their rights through effective complaint and report mechanism, which greatly perfects the establishment of rights protection mechanism.

These three clauses provide consumers with effective evidence of right protection, promote the establishment of right protection mechanism, improve the efficiency of right protection, and have positive significance to consumers' rights protection.

Article 27： The platform is not equivalent to the WeChat platform. Article 27 An e-commerce platform business shall request a business applying for selling commodities or providing services in its platform to submit authentic information including its identity, address, contact information, and administrative licensing, make verification and registration, establish a register, and make regular updates and verification.

Due to WeChat is an application tool for instant messaging services, there is still a big gap between the WeChat platform and the e-commerce platform. In that case, the article 27 does not apply to the WeChat platform. WeChat lacks the audit function and does not have the e-commerce platform to grasp the commodity order information in real time. Therefore, WeChat does not have the ability of the e-commerce platform operator.

Implementation status

The *E-Commerce Law of the People's Republic of China* was implemented in January this year, but according to investigations and relevant reporters, the implementation of the *E-Commerce Law of the People's Republic of China* is not satisfactory.

Just a few of WeChat-business and purchasing agencies has registered business licenses. According to the survey, one month after the implementation of the law, the Nanjing market supervision department said that only 20 WeChat-business and purchasing agencies registered business licenses. Seven months after the implementation of the law, the author asked 15 business people in the WeChat friends to ask about the changes brought by the implementation of the e-commerce law, and whether they chose to apply for a business license. Six of them said they did not know the *E-Commerce Law of the People's Republic of China*. Nine people said that they would see the punishment of the follow-up regulatory authorities to determine whether apply for a business license, and only one person on the license issue said that she had obtained a legal license.

Registration procedure is not clear. Some sellers said that they only know that they should register for business licenses, but it is not clear when to register and what kind of stores need to be registered. Six months after the implementation of the *E-Commerce Law of the People's Republic of China*, the electronic business license lighting system designed and developed by the State Administration of Markets was officially launched on June 10.

The definition of "Sporadic small transactions activities" is not clear. According to the actual situation, the *E-Commerce Law of the People's Republic of China* clearly identifies four cases that can be exempted from registration, including "sporadic small transaction activities". However, there is controversy over the definition of this type of situation, and there is a lack of clear definition criteria, which result in many small transactions has traded under private area and exempt from registration.

WECHAT SHOPPING RIGHTS PROTECTION: QUESTIONNAIRE DATA ANALYSIS

Descriptive Statistics

Of the 512 questionnaires, the ratio of male to female was 1: 1.4265, the age was mainly between 18 and 25 years old, accounting for 69.34%, 24% of the people over 25 years old, and the sample size of minors was relatively small. 76% of them would use WeChat to shop, and about 28% of them would often use WeChat to shop. 48.63% of them would shop through WeChat-business, 41.60% of them would shop through purchasing agencies.

TABLE 1
Descriptive Statistics for Questionnaire

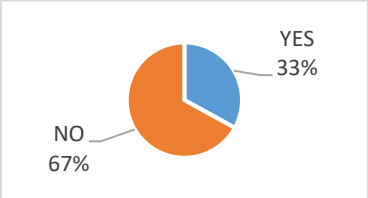
		freq	%			freq	%
sex				WeChat shopping frequency			
	Male	211	41.21		never	125	24.41
	Female	301	58.79		often	142	27.73
Age					once in a while	245	47.85
	Under 18	34	6.64	WeChat shopping mode			
	18 to 25	355	69.34		WeChat-business	249	48.63
	25 to 45	75	14.65		Purchasing agency	213	41.60
	Over 45	48	9.38		others	135	26.37

Overview of the Results of the Survey

TABLE 2
Has the consumer's rights been violated

	never	several	often
frequency	348	153	11
percentage	67.97	29.88	2.15

FIGURE 1
Success in protecting rights



This topic mainly investigates whether the author has been infringed on the consumer's rights and the success rate of the consumer's rights protection. The total of 32.03% of the filled-in has been violated, of which 29.88% of the people have been violated occasionally, and 2.15% of the people are often fall into rights dispute. A total of 67.97% of the respondents has not been infringed on the rights of consumers. Only 33% of the people have succeeded in protecting their rights, and 67% of the people failed to protect their rights.

TABLE 3
Cumulative loss amount of WeChat Shopping in 2018

	0-500	500-2000	Over 2000
frequency	465	31	16
percentage	90.82	6.05	3.13

The main investigation of this question is the amount of accumulated losses of the fillers in 2018 WeChat Shopping. A total of 90.82 % of the people lost less than 500 yuan, 6.05 % of people have lost between 500 and 2000 yuan, and 3.13 % lost more than 2,000 yuan.

TABLE 4
Attitude towards active protection of rights

	No initiative	Based on the amount of loss	Very active
frequency	166	95	279
percentage	32.42	18.55	54.49

The main investigation of this topic is the attitude of fillers towards active protection of rights. A total of 73.04% of the respondents have a positive attitude towards the active protection of their rights, of which 46.32% are willing to actively protect their rights when the loss is less than 500 yuan, 46.32% of them are willing to actively protect their rights when the loss between 500 and 1000 yuan, and 7.36% of them are willing to protect their rights actively when the amount of loss is more than 1000 yuan. 32. 42% of the people will not take the initiative to protect their rights.

TABLE 5
Channels for the protection of rights

	WeChat platform Complaints	Call the police	Complaints or requests for mediation to Consumers' Association	litigant	others
frequency	418	160	213	77	37
percentage	81.64	31.25	41.60	15.04	7.23

The main investigation of this topic is to fill in the channel of rights protection after the person's rights are damaged. This topic is multi-topic, select up to 3 options. Among them, the complaint of the WeChat platform, call the police and Complaints or requests for mediation to Consumers' Association account for the maximum, 81.64%, 31.25% and 41.60%, respectively, and 15.04% of withdrawal proceedings. Other channels account for 7.23%, most of which are in private mediation with the business.

TABLE 6
Issues encountered in the protection of rights

	Fuzzy mechanism of protecting rights	Lack of effective evidence	High cost of safeguarding rights	The laws and regulations are incomplete	The success rate of rights protecting is low	Lack of awareness of protecting rights	Others
freq	303	228	189	175	161	119	19
%	59.18	44.53	36.91	34.18	31.45	23.24	3.71

The table main investigation of the problem met by the person in the protection of rights. This topic is multi-topic, select up to 3 options. Among them, there still have 59.18% are not clear about the mechanism of protecting rights, 44.53% lack of effective evidence and 36.91% thought the high cost of protecting rights. The proportion of imperfect laws and regulations and the low success rate of protecting rights were 34.18% and 31.45%, respectively. About 23.24% of the people lacked awareness of protecting their rights.

TABLE 7
Importance of building WeChat rights protection mechanism

	Doesn't matter	important	very important
frequency	155	106	251
percentage	30.27	20.70	49.02

This question mainly investigates the understanding of the importance of constructing a perfect WeChat rights protection mechanism. 69.72% of the respondents think that it is important to construct a perfect WeChat rights protection mechanism. This question also further investigates the reasons for the selection of important and very important fillers. Most of them think that the construction of a perfect WeChat rights protection mechanism is important because: 1. Avoid property losses; 2. Better protect the rights of consumers, so that consumers have the path of safeguarding their rights and the protection of compensation; 3. Modifying the chaos situation of WeChat-business and purchasing agencies; 4. Enhance consumers confidence in safeguarding their rights, etc.

TABLE 8
Measures to change the plight of consumers in safeguarding their rights

	Legal protection	WeChat supervision	Government regulation	strengthening the consciousness of protecting rights	Others
frequency	381	402	282	223	15
percentage	74.41	78.52	55.08	43.55	2.93

This table mainly investigates the measures can effectively improve the dilemma of consumer rights protection. This topic is multi-topic, select up to 3 options. Among them, legal protection and WeChat supervision can effectively improve the dilemma of consumer rights protection, accounting for 74.41% and 78.52%, respectively. The proportion of government regulation options is 55.08%, and the proportion of strengthening consumer awareness of rights protection is 43.55%.

TABLE 9
Numbers of purchasing agencies in WeChat

	0-5	5-10	Over 10
frequency	354	108	50
percentage	69.14	21.09	9.77

This table mainly investigates the number of purchasing agencies among WeChat of the fill-in person. Among them, the number of purchasing agencies of 0-5 people accounted for 64.19 %, the number of purchasing agencies of 5-10 people accounted for 21.09 %, and the number of purchasing agencies of over 10 people accounted for 9.77 %.

Summary of Analysis Results

In a total of 512 questionnaires, the gender gap between the respondents was relatively small, and the age was mainly concentrated in the ages of 18-25. 70 % of them used WeChat for shopping, while the number of people shopping through WeChat-business and purchasing agencies was not significant. The number of purchasing agencies among WeChat friends is less than 10.

32.03 % of the respondents were infringed on the rights of consumers. 90.82 % of the people in 2018 had a cumulative loss of less than 500 yuan for WeChat shopping. A total of 73.04 % of the respondents were positive about active rights protection, but only 33.01 % were successful.

The main methods to protect the rights of respondents were WeChat platform complaints, call the police and complaints or requests for mediation to Consumers' Association. The main problems encountered by the fillers in safeguarding their rights are the lack of clear protection mechanism, the lack of effective evidence and the high cost of safeguarding rights.

The respondents who believe that strengthening supervision by law，government and WeChat supervision or strengthening consumer awareness of rights protection can effectively change the dilemma of consumer rights protection.

WECHAT SHOPPING RIGHTS PROTECTION: THE ANALYSIS OF THE DIFFICULTIES AND FEASIBLE MEASURES

WeChat Shopping Rights Protection: The Analysis of the Difficulties

According to the special questionnaire survey, the author finds out the difficulties of protecting consumers' rights. This chapter will comprehensively analyze the plight of consumer rights protection through the results of questionnaire analysis and the current situation in rights protection, Moreover, combined with the existing legal measures.

There are No Special Channels for Safeguarding Rights

At present, there is no specific mechanism for protecting the rights of WeChat-business and purchasing agencies infringement. Consumers often refer to the general online shopping rights protection methods. However, WeChat platform is different from the e-commerce platform, WeChat shopping and online shopping are also very different. Therefore, some rights protection channels do not apply to WeChat shopping consumers. Currently, the WeChat platform does not open up exclusive rights protection channels.

The High Cost of Rights Protection

Questionnaire Survey shows that 90.82% of the people had a loss of less than 500 yuan. When there is a transaction dispute and consumers defend their rights, if a complaint is made to the Administration of Industry and Commerce and the Consumers' Association, when there is no identification information of the seller, as well as transaction evidence, such as chat, electronic red envelope and transfer records, It's hard to prove it, which may lead the cost of spending more than the value of the commodity; If consumers choose an action, you'll have time and money costs, and when the cost of money exceeds the consumer's amount of damage, consumers will choose to give up protecting their rights; If consumers choose the way of calling the police, some disputes because the transaction amount does not meet the standard of filing, and the transfer time is more than 24 hours, It is also impossible to recover the loss through the police. Even if the consumer can file the case, due to the search for evidence, etc., it will also result in a large cost of time and money.

Therefore, after the consumer's rights were violated, no matter the which ways in protecting their rights, they need pay for time and money, but most WeChat shopping belongs to small transactions, so when the cost is higher than the damaged amount, consumers are unwilling to protect their rights, and ultimately it is difficult to achieve the purpose of safeguarding their rights.

Problems in the Popularization and Implementation of E-Commerce Law of the People's Republic of China

In the questionnaire survey, 34.18% of the people thought that the laws and regulations of safeguarding rights were not perfect, and 44.53% thought that the lack of effective evidence was the reason for the difficulty of safeguarding their rights. However, combined with the current legal situation, we find that *E-Commerce Law of the People's Republic of China* has been implemented in January this year, and in the interpretation of the relevant provisions of this law above, it is found that this law able to solve the problem which consumers lack effective evidence, and it will reduce the cost of safeguarding rights, but there are still nearly 40 percent of the people who do not know the significance of the law to the protection of consumers' rights.

There are still has some shortages in the popularization and implementation of *E-Commerce Law of the People's Republic of China*. According to the investigation, currently，the promotion and education are mainly focus on the enterprises area. On the other hand, there is limited popularization promotion for consumers, WeChat platform or relevant departments of the law. According to the investigation of the implementation in the second chapter, the following measures are not ideal. And the registration procedure is vague, only a small number of WeChat-business and purchasing agencies have registered business licenses. Besides, there are some laws are still has the problem in vaguely defined.

Regulatory Lag

Because of the special of WeChat shopping, although WeChat business and purchasing agency can already be brought into the supervision, there is still controversy among the market supervision departments in various provinces over the supervision of WeChat users in different regions, because WeChat shopping is across regions, transactions dispersion, and even user area information can be changed at any time, which also pose an obstacle to the regulatory work of the regulatory authorities. However, the specific details of the regulatory measures are not clear, and there is no information that regulators penalize or require rectification of irregular WeChat-business and purchasing agencies in current. The lag of regulation makes consumers hardly to protect their rights.

Feasible Measures to Protect Consumers' Rights

The last section analyzes the dilemma of consumers' rights protection, mainly because of the lack of special rights protection channels, the high cost of safeguarding rights, the problems

existing in the popularization and implementation of the *E-Commerce Law of the People's Republic of China* and the lag of supervision. This section will explore the protection measures of consumers' rights for these four reasons.

Establishment of an Exclusive Channel for Protecting Rights

WeChat users have reached the level of 1 billion levels, however, there consumer rights damage cases are frequently occurred due to various reasons. In order to better protect the rights of consumers, improve the efficiency of the consumer's rights protection and lower the cost of protecting the rights, the WeChat platform need to promote the consumers right as well. The survey data shows that, in the understanding of the importance of building the rights protection mechanism, 69.72% of the filled-in people think it is important to build the perfect WeChat rights protection mechanism, which will reduce the consumer's property loss, protect the consumer's rights, rectify the undesirable phenomena, and enhance the consumer's confidence in the rights protection.

Therefore, aiming at the current WeChat shopping, the WeChat platform can open up the exclusive rights protection channel, and specifically solve the WeChat shopping dispute, and provide a clear channel for protecting the rights of the consumers in a quick and efficient way.

Convenient shopping complaint channels

The WeChat platform can refer to the experience of the e-commerce platform, establish the online complaint channel and place the channel in a prominent position, simplify the complaint process, and the WeChat platform should be involved and processed within 24 hours of the consumer's complaint.

WeChat customer service official account

WeChat should set up a WeChat customer service official account to deal with disputes caused by WeChat shopping. The official account should include the following functions: issuing rights protection flow chart, updating the complaint process in real time, informing the complaint results at the first time, collecting consumers opinions, publishing articles and cases about protecting rights, and so on.

Promoting the Popularization of the Law

The popularization of the *E-Commerce Law of the People's Republic of China* requires the relevant departments and the WeChat platform to work together. Relevant departments should

promote the popularization of the law as soon as possible，measures available must be workable after a plan is made. Consumers and operators can be made aware of the law through media publicity and educational activities; WeChat platform should also send to WeChat users the interpretation of the regulations of the laws, and business users will be described in detail.

Community education

The supervision department should promote the notice in each community to publish the general education, send the staff to supervise and inspect the about general law situation regularly, conduct the sample survey on the residents of each community to learn the effect of that.

Interpretation of the detailed terms

WeChat platform should focus on interpreting the terms of WeChat shopping consumers and operators in *E-Commerce Law of the People's Republic of China*, arrange and push it to WeChat users in the form of articles, WeChat official account should pushes it again, and put the article in a prominent position on WeChat platform for WeChat users to read.

Media publicity

The news media should carry out the law education every day, making it into an interesting videoand, and put it on the large video website, the large-flow platform and mobile phone application software, rolling and playing in a large square and a shopping mall.

Strengthening Regulatory Functions

WeChat platform and supervision departments should strengthen the supervision function, the supervision departments should implement the supervision detailed rules as soon as possible, and set up a special supervision team to supervise the business qualification of WeChat-business and purchasing agencies and the quality of goods sold. WeChat platform should also play its regulatory function, strengthen the supervision of the moments, timely detect irregularities situations to rectify or report to the relevant regulatory departments, at the same time, for WeChat-business and purchasing agencies who have not yet registered their business license, First, urge them to learn the legal procedures as soon as possible. If they have not yet done so, they will be freezed the account to ensure other user's shopping safety.

Reporting reward mechanism

WeChat users can report to WeChat customer service official account if they find that there is an illegal operation phenomenon. If the situation is true, WeChat platform gives a reward; WeChat platform cooperate with regulatory authorities to implement supervision work, similarly, WeChat platform actively cooperate, supervision departments should also give a reward.

Regulatory authorities have clear regulatory responsibilities

The supervision department shall specify the supervision responsibilities, set up a supervision team for WeChat-business and purchasing agencies, follow up the supervision situation at any time, and unite each province to carry on the responsibility division, clear each kind of situation occurrence different supervision department's right and the obligation.

Detailed rules for the implementation of the work

The supervision department shall determine the contents of the work, refine the work and strengthen the supervision, set up a special supervision group to supervise the business qualification and the quality of the sale of the commodities.

CONCLUSION

WeChat shopping is known as a new form of consumption. The rapid development and scale expansion of WeChat shopping industry show its importance in mobile shopping model. However, the frequent WeChat shopping infringement has aroused social attention, according to the Questionnaire Survey, 30 % of the respondents are harmed by consumer rights, but the success rate of rights protection was only 30 %.

This paper mainly focuses on WeChat-business and purchasing agencies, through the special Questionnaire Survey on the situation of WeChat's rights protection, to know common cases of consumer infringement, to introduce the current situation of consumer rights protection difficulties, and the problems existing in consumer rights protection. Combined with the existing consumer rights protection measures and the current legal situation in China, and putting forward the suggestions of solving measures pertinently, which is the significance and value of the research.

The significance of this topic: The study is based on the first-hand information through questionnaire survey, and focused on the consumer right protection dilemma with the rapid development of online shopping by WeChat in China, Combining the status of rights protection and putting forward solution suggestions. The deficiency of this study is that, since

E-Commerce Law of the People's Republic of China is the first comprehensive law in the field of e-commerce in China, the relevant scholars have not studied the law in depth. The interpretation of this law in this study is not comprehensive. And because of the lack of information, the author's understanding of the implementation of the regulatory authorities is not comprehensive. Therefore, the study on the current situation and implementation of the law is not in-depth.

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