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A couple of historical landmarks regarding value theory and its relevance for the present

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Abstract. *In our everyday discussions, often we say that something is worth or not the money. Certainly, when we make such assessments, behind our valuation there is a complex reasoning, although we might be more or less aware of it.*

In the context of a consumer culture, the author argues that a proper valuation of goods and services is a prerequisite, should someone want to live a fulfilled life. Therefore, the paper blows the dust off the value theories of the Scholastics, Adam Smith and Carl Menger, with the belief that the history of economic thought is a thesaurus much neglected, yet so valuable for nowadays.

Keywords: information affluence, value theory, valuation.

JEL Classification: B10, D46, D83.

1. Information affluence and the decision to acquire

> *(...) "everyone is entitled to know everything." But this is a false slogan, characteristic of a false era: people also have the right not to know, and it is a much more valuable one. The right not to have their divine souls stuffed with gossip, nonsense, vain talk.*
>
> Alexander Solzhenitsyn (1978, p. 23)

It is considered that information is a highly valuable asset for the person who is in hold of it. Knowledge brings with it opportunities, supports the decision making process, it keeps us away from many troubles, and so forth. Then, does this mean that it is good to possess as much information as possible? I think that often we are very involved in all that happens to us and it is difficult to take a look "from outside", but generations to come will get the chance to label our age, as we today highlight the features that characterize preceding times. Will they say that it was the age of beginning for mass and real time communication with no limit of distance? For sure, our capacity of conveying information stands at a level that was unthinkable, be it even with only 50 years ago. This capacity supposes that people are more and more informed, or at least they could be, depending on preferences. Beyond the benefits brought by information, people are starting more and more to perceive also the side effects of a great amount of information which, whether we like it or not, comes to our senses.

To this end, from a standpoint of neuroscience, there are talks about the negative effects caused by the existence of a sensorial overstimulation that is generated by the multitude of media devices, but also about the effects caused by *data smog* – affluence of poor quality information coming from a multitude of channels, not only electronic media (Mihalache, 2017a, pp. 40-43). Professor Sorin Mihalache and other (neuro)scientists (Gheorghe, 2006), draw attention to the fact that this kind of information alongside overstimulation are responsible for damaging key cognitive processes related to perception of reality, abstracting, or the capacity of focusing in order to attain certain objectives.

At the beginning of the paper, we made reference to some ideas from the discourse delivered by Alexander Solzhenitsyn on the occasion of the 1978 commencement at Harvard University. We may say that this excerpt is an approach to our subject from a philosophical standpoint. Facing an overwhelming quantity of information (to what extent more today than 40 years ago!), Solzhenitsyn offers a simply, yet insightful solution: people have the right not to know what is degrading for their existence and their human becoming.

At the end of this preamble, we shift towards the economic perspective of the subject that we approach. The theme of information affluence could arouse a lot subjects within economics, as to what concern us, we will reflect upon the influence that a massive flux of commercial information has upon the process of decision making within individual and household consumers. As soon as we leave home, open radio or e-mail, or friends call us, and so on, we hear about the existence of numerous offers: loads of products and services that we "cannot do without" alongside even more reasons why we should buy them. By means of this paper we wish to show that when lacking proper skills of decision making, this affluence of commercial information, far from being beneficial to making the

acquisition decision, might prove burdening and would determine, contrary to expectations, a decision that will not satisfy the needs of the buyer.

In order to reach the settled objective, in the following section we will display a couple of theoretical frameworks within value theory, and then we will try to create a link between these theoretical issues and current marketing message.

2. Prevalence of subjective in value theories

> *San Bernardino makes his most important contribution by stating that value is composed of three elements: (1) usefulness (virtuositas); (2) scarcity (raritas); and (3) pleasurableness or desirability (complacibilitas).*
> Raymond de Roover (1967, p. 18)

Earlier we noticed that today, people have the benefit, but also the challenge of being able to satisfy their needs by choosing from a large variety of products and services; the benefit – coming from the fact that having so much options, the chances to find something suitable are increased, and, on the other side, the challenge – generated by the increasing number of variables that enter the decision making process. Therefore, we are in front of being able to get "something better", but the valuation process became more difficult. In this context, I believe that bettering the reasoning upon which individuals make decisions of acquisition is a key asset that will enable us to live a better life. Let us remark that Professor Dan Ariely (Predictably Irrational, 2009-2010) highlighted in an insightful way that underlying an acquisition decision there is a logic, a reasoning that we are more or less aware of, even those decision that we tend to call irrational having their own reasons.

In order to better the abilities of nowadays consumers – in their state of decision makers – I believe that it is timely to know a couple of assertions subscribed to the theory of value, an important subject in the history of economic thought. At a point in time, some goods that we once considered useful get either in the litter basket, either on a pedestal, depending on the assessment that they are obsolete, or, on the contrary, they are more precious due to time that passed. In such a fashion could also value theory be perceived. While some might consider that the place of old theories are dusty incunabula, I believe that theories of values, such are those of the Scholars, Adam Smith or Carl Menger, are a useful thesaurus, valuable for modern man.

In the excerpt from the beginning of this section I indicated an essential part of the vision of scholar Bernardino of Siena (1380-1444) with regard to the value of things, such as it was exposed in his treaty – De Evangelio aeterno – and perceived by historian Raymond de Roover (1904-1972). Raymond de Roover was a professor at Brooklyn College within The City University of New York with numerous studies regarding the Middle Ages, including the economic thought of the Scholars. In a paper of 1967, de Roover takes into account the contribution of San Bernardino to economics, exposing the ideas that I cited earlier, which, as a matter of fact, explains the historian, belong to another scholar, Pierre Jean de Olivi (1248-1298); this confusing situation is not due to any kind of lack of ethics from the part of San Bernardino, the fact being that Olivi was suspected of heresy, therefore it was safer not to quote him. Raymond de Roover also indicates the meanings that

Bernardino attributed to the terms he used. Thus, scarcity has a common meaning – makes value grow as a certain good is more rare; with regard to "virtuositas", this is related to certain capacities of the good that render it proper to be used in order to meet needs ("objective utility"), whereas "complacibilitas" defines a series of characteristics that render a good or service to be favored, in accordance to the desires of a person ("subjective utility") (de Roover, 1967, pp. 18-20).

From the construction of these three elements and after the consensus of the market, results the value of a good, which is an assessment belonging to buyers, not to producers of retailers. Of course that the vision of San Bernardino and of the other scholars contain also other important stipulations or specific cases, however, in brief, the value theory of the scholars (with the exception of some of them) is a subjective one, in which value is an account of the consensus of the market with regard to how much a certain good is worth.

Crossing time, we find another important theory of value at Adam Smith. I consider his value to be a hybrid one, in which the value of a good or service draws from the work which was done for its fulfilment and "by the higgling and bargaining of the market" (Smith, 1776, 1872, p. 13). For Smith also, price is to be found at the crossing of demand and offer, this varying in relation to the competition that exists for the available quantity, some key variables introduced in the process by the Scottish professor being the importance of the good for the one who is buying and "the wealth and wanton luxury of the competitors" (de Roover, 1967, p. 23).

One of the most elaborate theories of value is the one developed by Carl Menger in his treaty, *Principles of Economics* (1871/2007). For Menger, value cannot be otherwise than subjective, standing in relation to the state that one is experiencing at a certain moment. For the Austrian professor, "value is therefore nothing inherent in goods, no property of them, but merely the importance that we first attribute to the satisfaction of our needs, that is, to our lives and well-being, and in consequence carry over to economic goods as the exclusive causes of the satisfaction of our needs" (de Roover, 1967, p. 116).

From these three views, although there are a lot of differences between them, results a central idea: things are worth as much as we let them worth, as much as we value the satisfaction of a certain need or desire. Thus, in order to navigate safely through the "thicket" of offers and make a decision of acquisition that will contribute to the satisfaction of our needs, it seems that it is important to have proper self-knowledge, the knowledge of what really satisfies us and what is merely an illusion. Does the environment that we live in contribute to our acquiring of this knowledge?

3. Discussion

In order to understand and explain the option of people,
there must be taken into account the values that they adhere to in fact.
Thomas Woods Jr. (2005, 2017, p. 210)

Up until now, we could see that people value things according to their own reasoning, in the context in which today they are met with a large volume of information. The issue raised by this paper is that in a consumer culture, affluence of commercial information has

a negative effect upon the valuations that people undertake. Taking into account that with the furthering of labour division, exchange has become a more and more present fact of our lives, our abilities to perceive value are more and more important in order to be able to make better use of our resources.

In the book that was already mentioned, Dan Ariely highlighted the fact that after experiments conducted by him, the affluence of options that a person can make use of is a drag for making the best decisions (pp. 185-200). Another thing showed by Ariely is the ease by which we let ourselves influenced, certain stimuli that we perceive having a greater influence on ourselves than we might be inclined to believe at first sight (pp. 213-218). To this end, professor Ariely draws our attention to the "investment that we make in our own convictions" (p. 219), fact that was highlighted also by professor Sorin Mihalache who sets the issue in the following way:

"[T]he world, its things, the whole symbolic capital that it offers us daily constitute, to a good extent, a kind of nurture for the senses, a substantial material for our thoughts and desires. And, by this, the world makes us be in a certain way." (Mihalache, 2017, p. 27)

In the key of the excerpt belonging to historian Thomas Woods Jr., whom we quoted at the beginning of this section, and of the assertions made by the other two authors mentioned above, I argue that under the influence of an oversized and omnipresent commercial message, the values to which people adhere with regard to consumption customs might be unfavourable.

In his theory of good, Carl Menger observed that somet people use things that are not able to satisfy the (supposed) need for which they are employed. In his opinion, such a fact emerges from two cases that may be considered errors: the error of assigning capacities to a thing that does not possess them, and the error of identifying certain needs that in fact do not exist (Menger, 2007, p. 53). I believe that the affluence of nowadays commercial information contributes to increasing the frequency of these two types of error. Messages such as "Special taste. The family will love you FOR SURE" – printed on the package of a bread, or "Every time you find something new" – at the entrance of a store, make me think whether a product can, or even should, offer me the acceptance of others, and if does it really exist the need of always finding something new.

4. Conclusion

> *The experience of last decades showed us that we can progress remarkably in terms of scientific discoveries, remaining, however, deficient with regard to the quality of life.*
>
> Adrian Sorin Mihalache (2017b)

From a scientific and technical standpoint, as our society advances, numerous difficult problems that humanity confronted for a long time have been or are in course of being solved. However, as means to solve these problems were developed, it has been perceived that the same means may be used in ways that create new problems. In this regard, professor Sorin Mihalache noticed that scientific progress is not a sufficient condition for a broader

progress of mankind, discoveries having to be attended by proper interpretation so as to really render them for the benefit of man (2017b). This paper was meant to illustrate this fact, by means of confronting the benefits that are expected to derive from possessing information, with nowadays reality, building upon the case of the affluence of commercial message. I argue that today we confront ourselves with superfluous information that, in the peculiar case approached – of making an acquisition decision – complicates the process up to a point that might lead to errors of valuation which, eventually, lead us towards an option that will not contribute to the increase of wellbeing.

In the development of my ideas I made use of some historical landmarks within the theory of value so as to emphasize the personal responsibility that each has to assume in the valuation process and to summon upon more reflection. I am confident that by taking into account the assertions of authors such as San Bernardino, Adam Smith or Carl Menger, our judgment with regard to valuation of things will be strengthened. In this respect, I hope that my paper will add to existing pleading for the relevance of the history (of economic thought) for nowadays people.

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Importance of Soft Skills in Romanian SMEs for Lean Six Sigma implementation

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Abstract. *During the last 10 year, Lean Six Sigma implementation in Romanian SMEs became a normal fact. Statistics show that Lean Six Sigma implementation failure rate is at least 85% of the time (Raio, 2017). The link between Soft Skills and Lean Six Sigma concept is the key of the question: Why Lean Six Sigma is failing in many companies? The advantages of Lean Six Sigma are certain and proved. The implementation methodology is well known, models and way of working has been developed, as well as books, models, forms, papers and experiences, helped implementation in several range of industry. Latterly Soft Skills are required in most of the companies, special assessments are done in order to investigate and improve the employees Soft Skills. The Romanian SMEs understanding of Soft Skills importance in a Lean Six Sigma project implementation - make the difference to the final result.*

Keywords: Lean Manufacturing, Six Sigma, Lean Six Sigma, Waste, Soft Skills, SMEs, Personality development, Communication skills, Interpersonal relationship, Leadership, Team building, Time management, Problem solving.

JEL Classification: L250.

1. Introduction

The increased request of people with special abilities on the way of fast results obtaining, are part of our daily life, due to the continuous changes in the work environment. The Soft Skills are difficult to be quantified, are subjective and cannot be learned, but could be developed. Today employees are helping solve the huge number of projects, arriving to remain updated with the hard skills and resisting to the constant pressure of the results. In the chapter 4, will be pointed out, the main elements of Soft Skills concept.

Lean Manufacturing and Six Sigma are the most interesting development of the concepts in businesses professional managed. Worldwide the performing industries became using the tools from Lean Six Sigma techniques, for their very special certifications. During the potential and quality audits performed to the suppliers, especially in the automotive industry, with the aim to decrease the costs and the risks, methods from Lean Six Sigma are used. Statistic calculation replying to the results and quality processes analyses. The Lean Six Sigma philosophy, manages the actual Hi-Tech business world. Today we talk about Lean Six Sigma transformation: Lean Six Sigma production, Lean Six Sigma logistics, Lean Six Sigma supply chain, Lean Six Sigma administration, Lean Six Sigma healthcare, Lean Six Sigma services, Lean Six Sigma education (Munteanu, 2017) or Lean Six Sigma found applicability in all the sectors of the economy and our daily life. Chapter 5 will point out the main Lean Six Sigma tools. Lean Six Sigma concept/methods could be learned, are Hard Skills. The purpose of the research is to present the link between the people Soft Skills, the projects Lean Six Sigma implementation and the response to very high failure rate of these projects in the Romanians SMEs. Description of SMEs and specific statistics of Romanian SMEs are shown in chapter 3. Conclusions from chapter 6 explain the link between the 3 terms set out: Soft Skills, Lean Six Sigma and Romanian SMEs.

2. Romanian SMEs

"Small and medium size enterprises (SMEs) represent 99% of all businesses in EU."

"Nine out of every 10 enterprises is an SME, and SMEs generate two out of every three jobs." (Source: European Commission)

Small and medium-sized enterprises (SMEs) are defined in the EU recommendation 2003/361.

„The main factors determining whether an enterprise is an SME are:
1. **staff headcount;**
2. either **turnover** or **balance sheet total".**

Figure 1

Company category	Staff headcount	Turnover	Balance sheet
Medium-sized	< 250	< € 50 m	< € 43 m
Small	< 50	< € 10 m	< € 10 m
Micro	< 10	< € 2 m	< € 2 m

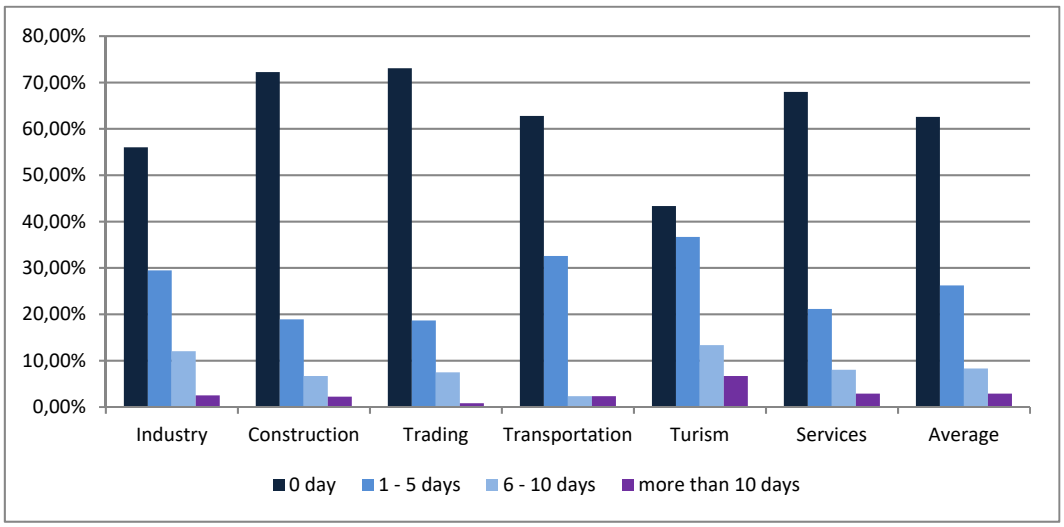
Source: European Commission site.

The specificity of the Romanian SMEs is that the owners and top management expectations, are to obtain very fast results. Talking about ownership, Romanian or foreigner shareholders,

impose to the management a very strict control of the costs, in a difficult European business environment and in the detriment of development of its staff. The average of working days dedicated to training, in the Romanian SMEs and the type of SMEs activity, shown the following result (Nicolaescu, 2016, p. 280):

Average of working days dedicated to training	Industry	Construction	Trading	Transportation	Turism	Services	Average
0 day	56.02%	72.22%	73.07%	62.78%	43.33%	67.95%	62.56%
1-5 days	29.46%	18.89%	18.67%	32.56%	36.67%	21.15%	26.23%
6-10 days	12.03%	6.67%	7.46%	2.33%	13.33%	8.02%	8.31%
more than 10 days	2.49%	2.22%	0.80%	2.33%	6.67%	2.88%	2.90%

Figure 2

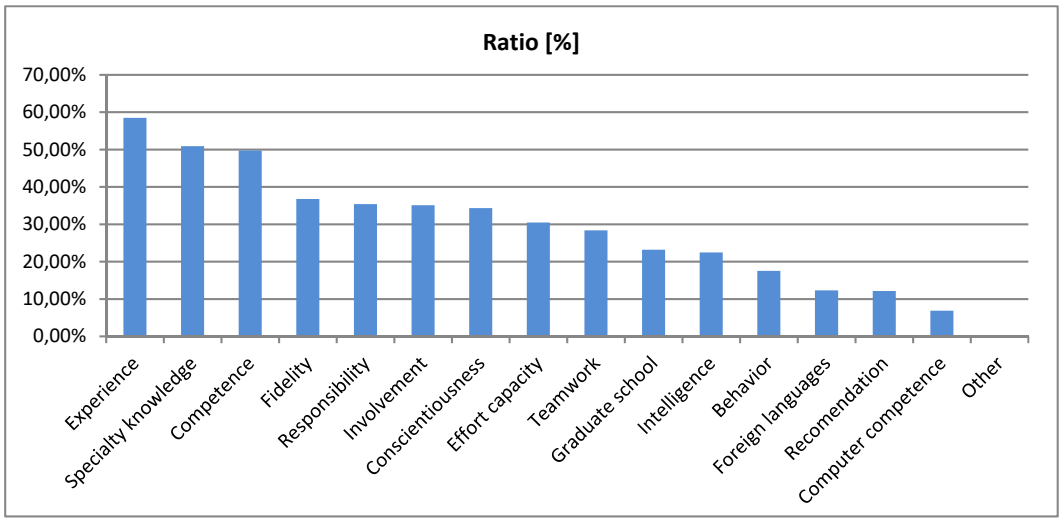


As well as the human capital amount with the requested Soft Skills and the management understanding of Lean Six Sigma concepts and benefits, enforce to the achievement of results.

Statistics show that the Romanian SMEs balance of criteria of assessing hard and soft skills are as follows (Nicolaescu, 2016, p. 265):

Criteria of assessing the employees in Romanian SMEs	Ratio [%]
Experience	58.49%
Specialty knowledge	50.91%
Competence	49.73%
Fidelity	36.77%
Responsibility	35.40%
Involvement	35.10%
Conscientiousness	34.31%
Effort capacity	30.47%
Teamwork	28.38%
Graduate school	23.18%
Intelligence	22.45%
Behavior	17.52%
Foreign languages	12.32%
Recommendation	12.14%
Computer competence	6.84%
Other	0.27%

Figure 3



According to our research, the SMEs involved in automotive industry uses Lean Six Sigma projects, imposed by OEM, Tier 1 and Tier 2 customers. These companies are certified IATF 16949.

The research shows that the regions with automotive industry development, invested in employees training, as well as the average of employees receiving training is 30.08% in West region, 17.34% Center region, 13.92% Bucharest Region compared with 12.44% North East Region, 5.03% South West region or 8.92% North West Region (Nicolaescu, 2016, p. 285).

3. Soft skills concept

Soft Skills is about personality, named also "Life Skills", "People Skills" or "Interpersonal Skills". These are the personal character traits and qualities that each of us had (Manmohan, 2017). Soft Skills are related to the way that a person relay to and interact with other people. Soft skills are the people personal attributes, requested to succeed in the workplace (Doyle, 2017).

The important soft skills (Manmohan, 2017):

1. Communication Skills:
   - Understand the meaning and purpose of communication;
   - Identify the process and the key elements of the effective communication;
   - Manage the communication tools, verbal communication, listening skills, speaking skills and nonverbal communication;
   - Ability to deal with conflict and overcoming the communication barriers;
2. Interpersonal relationship:
   - Acknowledge the importance and uses of interpersonal relationship skills;
   - Use the types, the factors affecting and the consequences of interpersonal relationship;
   - Accommodate to different people styles;

3. Team building:
   - Admit the importance of human relations and team force;
   - Understand the people behavior, comfort zones, need of assertiveness and win/win situations.
   - Recognize the characteristics of high performance teams.
4. Leadership:
   - Know meaning and importance of leadership, importance of leadership relationship;
   - Manage the leadership approaches, task, team, individual functions, and responsibility of leadership;
   - Discern the styles of leadership;
5. Time management:
   - Use effective time management and self-discipline;
6. Presentation skills:
   - Practice presentations;
7. Managing stress:
   - Recognizing and acknowledging stress;
   - Tackling the problems;
8. Thinking skills:
   - Develop core thinking skills: focus, collect, organize, remember, analyze, integrate, evaluate.
   - Understand critical and creative thinking;
9. Problem solving:
   - Develop analytical and problem solving skills;
   - Manage process, the stages and the methods of problem solving;
10. Decision making:
    - Understand and manage: features, scope, purpose, types and process of decision.
11. Employment communication:
    - Know writing a CV and sustain an interview;
12. Workplace etiquette:
    - Build the work behavior and personal etiquette;
    - Know using the office utilities and resources;

The top soft skills employers seek (Doyle, 2017):

- Team player –being cooperative, displaying strong leadership skills when necessary.
- Flexibility – can adapt to any situation.
- Effective communication – being a worthy speaker, being a good listener and using appropriate body language.
- Problem-solving and resourcefulness – critical skills when unexpected issues inevitably arise.
- Feedback – accepting feedback gracefully and applying that feedback.
- Confidence – being confident and capable, the supervisors, employees and the clients will believe in what are saying.
- Creative thinking – drives innovation and increases efficiency.

Latterly the team's Soft Skills importance is major for all companies, all business and all human interactions. Without a good level and a consistent package of Soft Skills, key elements of business development and results attendance are lost. Worldwide the companies organize trainings for assessments and improvement of Soft Skills, after achieving a certain level of Hard Skills, on the way of performance increasing.

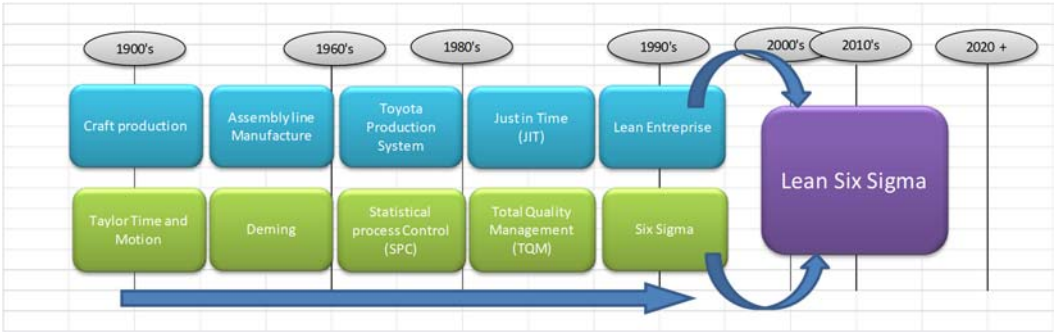
4. Lean Six Sigma concept

The use of Lean Six Sigma as a business progress methodology had a big influence in the last decade. Lean Six Sigma is an organizational philosophy relaying on a concerted team effort the performance improvement by systematically removing waste (Lean Manufacturing) and reducing variation (Six Sigma). It combines the speed of Lean manufacturing and the statistic advantages of Six Sigma to eliminate, latterly, the eight kinds of waste:

- Defects/Rejects/Rework – costs of administrative and production resources initial occurred and cost of replacement/reparation parts – meaning time, resources and capacity lost.
- Over-Production – producing before the next step requires it in the process or before the customer is ready to buy it.
- Waiting – people, machines, materials, information – lack of process definition, production interruptions.
- Non-Utilized Talent – unutilized human talent, knowledge and capacity.
- Transport – moving items from one location to another, without adding value.
- Excess Inventory – materials in the process waiting to begin work on it.
- Unnecessary Motion – related to people and layout; tools, materials, information are where and when they need to be.
- Extra-Processing – setup, change over, control, poor tools, each process activity with non-value added (Careira and Trudell, 2006).

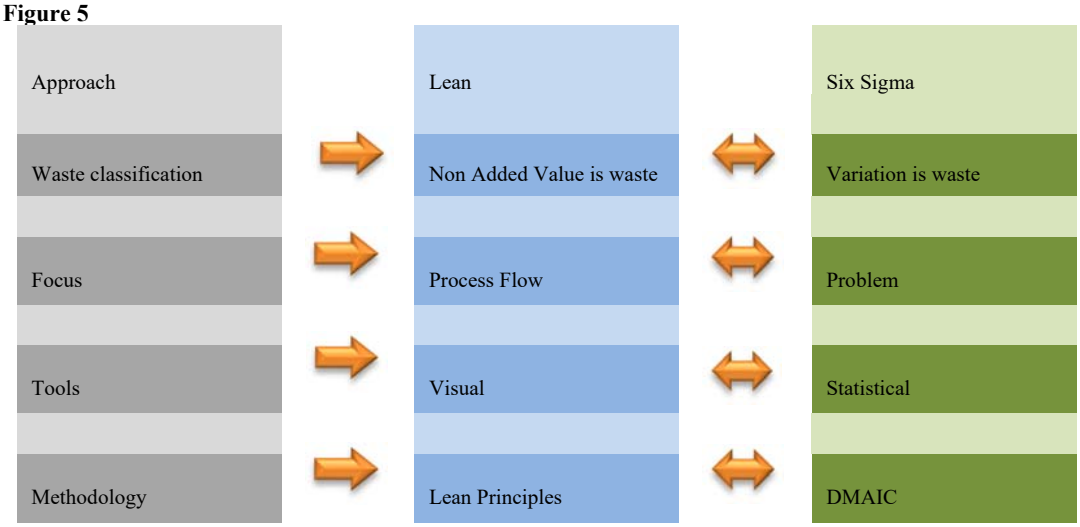
Lean Six Sigma evolution (Marsh and Perera, 2017).

Figure 4



According to Marsh and Perera research, 50.3% of users received training in both Lean and Six Sigma, compares with 20.8% with training in Lean only and 14.5% in Six Sigma only. This advises that Lean Six Sigma approach has replace Lean and Six Sigma as individual methodologies. Below (Figure 5) the key differences approaches between Lean and Six Sigma.

Figure 5



While Lean is focused on reducing /eliminated process wastes; Six Sigma is concentrated on reduction/elimination of problems. The tools are complementary as well as the methodologies
(Figure 6) (Munteanu, 2017) compares the main tools and techniques used by the two concepts.

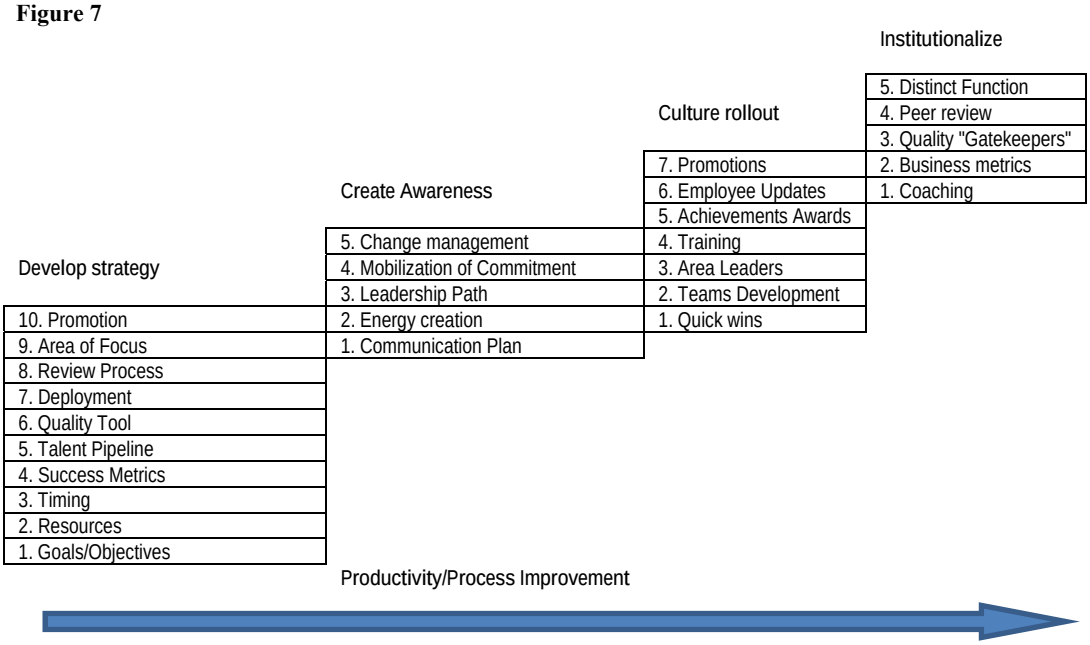
Figure 6

Lean	Six Sigma
Workplace management	Variability reduction
Set-up time reduction (SMED)	Belt system (MB, BB, GB, YB)
Pull system (Kanban)	DMAIC methodology
Total Productive Maintenance (TPM)	Statistical Process Control (SPC)
Mistake Proofing (Poka Yoke)	Process Capability Analysis
5S Practice	Measurement System Analysis (MSA)
Value Stream Mapping	Design Of Experiments (DOE)
SIPOC process diagram	Robust Design
Just-in-Time (JIT)	Quality Function Deployment (QFD)
Visual Management	Failure Mode Effects and Criticality Analysis
One Piece flow (Takt time)	Project Management
Standardized Procedures/work	Regression Analysis
Production flow balancing	Analysis of Means and Variance
Waste identification and elimination	Hypothesis tests
Kaizen	Root Cause Analysis
Cellular manufacturing	Process Mapping
Change management tools	Change management tools

Implementation experiences show that the best way to follow is to use the Six Sigma road map. Six Sigma has a very structured approach in problem solving that is absent in Lean and is more sophisticated offering method to drill deeper into complex issues (Shaffie and Shahbazi, 2012). Lean Six Sigma implementation is based on Six Sigma's methodology DMAIC, with the five distinct problem-solving phases: **D**efine, **M**easure, **A**nalyze, **I**mprove and **C**ontrol – ideally for use in a wide methodology integrating the key elements of both concepts.

According Shaffie and Shahbazi in the implementation book "The McGraw-Hill 36-Hour Course: Lean Six Sigma" – the most successful implementations of Lean Six Sigma will follow the structure from (Figure 7), with the clear milestones outline, at what time to engage for the specific activities, to certify the success of method.

Figure 7



Lean Six Sigma implementation isn't an easy process. Qualified people deal with the tools and methods.

With the aim to achieve the benefits of Lean Six Sigma implementation, according Schonberger, below an interesting approach of the "areas of best practice:

- Less: inventory, accounting, inspection, material handling, kitting, and stock picking; a process: management goal-setting.
- More: cells, machines, load/unload docks, and fabrication capacity; processes: training, cross-training, cross-careering, job rotation, and process data.
- Fewer: conveyors, fork trucks, stockrooms, transactions, job classifications, component, parts and suppliers.
- Smaller: machines, containers, and factories.
- Shorter: production lines and assembly lines.
- Longer: value streams and linked supply/customer chains."

(Schonberger, 2007)

5. Conclusions

The Soft Skills level of the employees in the Romanian SMEs is elemental in the Lean Six Sigma implementation process. The fast results of implementation bring the management support. The Management of the Romanian SMEs is not eager to spend time and money into the improvement and development of its staff.

Implementation of Lean Six Sigma in Romanian SMEs is quite difficult due to implementation costs, budget requested for trainings and payment of a Black Belt/Master Black Belt or an external expert (Munteanu, 2017).

The implementation of Lean Six Sigma projects are based on rigueur and continuous improvement. Many projects fail (85% according Raio, 2017) due to the lack of management support, usage of wrong tools and the Soft Skills level of people involved in the project implementation. Lean Six Sigma projects are not a "collection of themes" (Raio, 2017), tools and data analyses of processes with the right focus on the high success probability, bring the team self-confidence and push the continuous improvement of results and people's Hard and Soft Skills level.

Effective improvement systems is enough complicated. In a typical Romanian SME with twenty, fifty, or two hundred people, ten people are improvement-adding, the rest are non-improvement-adding. How to push harness people's talents and experience to achieve high rates of process improvement, the Soft Skills is the solution. This ten people improvement adding has a good level of Soft Skills. In the Romanians SMEs, managers and professionals are partly aware of their role as generating improvements. Others – the bulk of employees – do not, mostly because of culture, bad habits, management obstacles, company culture, lack of leadership and neglect. All of these may help explain why so many Romanian SMEs mount a strong Lean Six Sigma effort but fail to keep it going.

Every company's way of doing business is specific, with good and worse results. A small number of companies have been selected to demonstrate strong abilities of growing using different methods. These companies own talents. They assign the best people to the new business projects, as experts and specialists in process improvement. They motivate their employees, providing them with challenges, advantages and rewards, so they retain their best people.

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Food production and agricultural resources within the sustainable development

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Abstract. *The intensive development of agriculture, the increase of the population, the expulsion of consumerism, are the premise pollution of the nature and diminishing of the volume of natural resources. At present, agriculture provides 30% of the world's food, consuming 70% of natural resources, gas emissions generated by activities in this branch of the economy representing 17% of the total greenhouse gas emissions. Using methods such as documenting and analyzing statistical, this paper presents the evolution of food consumption in terms of resource consumption, the limits and constraints of intensive agriculture, the benefits of agro-ecology from the perspective of sustainable development.*

Keywords: food consumption, waste, consumerism, ecological agriculture, sustainable development.

JEL Classification: J11, N53, Q18.

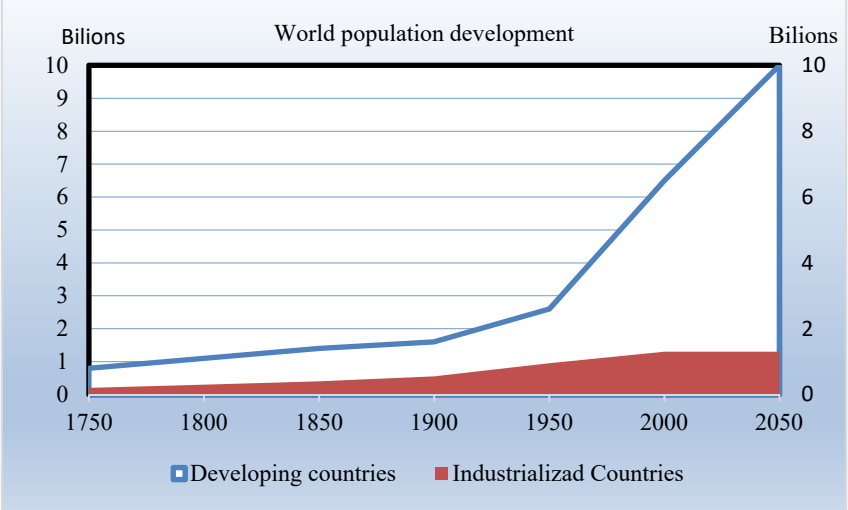
1. Introduction

The intensive economic growth, the increase in population and the emphasize of the limited character of resources are phenomena that have major implications in the progress and the welfare of the society. The facilities of the industrial revolution, research outcome in all fields have contributed to an increase in the population and of the consumption of food, causing pressure on the volume of natural resources of Earth.

2. The dependence between food consumption and population

In the documents of the United Nations Organization it is expected that the planet's population will increase from 7 billion to 10 billion by 2050, 95% of this increase in the population will be determined by the countries in course of development. Increase in the population of underdeveloped countries but also the increase of income in developed countries, will increase the demand for food in 2050 by 70% as compared to the current need (Figure 1).

Figure 1. *Population growth forecast by 2050*



Source: sustainablescale.org, 2015.

In contrast to the demographic features manifested worldwide, in Europe, the population manifests tendencies of stagnation in growth and also aging of the population. So that 27.8% of the population of Europe has over 65 years of age, the average age is 46, 8 years. One of the biggest drops of population, in the countries of Europe, is manifested in Romania, where it is foreseeable that by the year 2050, the population will drop to a little over 18 million inhabitants.

All these estimates justify the concern of the scientific community, the political world of public opinion, relating to food safety in the conditions of population growth. Even as early as 1968, Hardin G. in his book *Tragedy of common goods*, signaled the problem of exhaustion and degradation of natural resources of the planet due to their

intensive exploitation. Another warning with regard to the reduction of the volume of natural resources, caused by chaotic consumption, is given in 1972 by a group of researchers, in the Report to the Club of Rome, called “The limits of growth”, which brings as argument, in this respect, the oil crisis of 1973. More recently, The Intergovernmental Committee for Climate Change, stresses that in addition to the depletion of natural resources, caused by the increase in the population, add biodiversity loss caused by pollution, climate change and other natural hazards.

The production of food is based on two major components: natural ecosystems and ecosystems and agricultural ecosystems. Natural ecosystems represent "the most important provider of protein and as a result the most predisposed to deterioration, with negative effects on its resilience capacity through natural mechanisms”.

The intensive mechanised farming practice and the fact that too few citizens know the land and its laws, which rule us, have as consequences some phenomena which endanger the welfare of future generations. So we can observe:

- accelerated soil erosion caused by the wind and water, deforestation and land grubbing-up, 7% of the surface area of forests of the planet disappear in favor of farming land;
- chemical damage to the ground due to the excessive use of chemical substances. Use in excess of chemicals, pesticides and insecticides, causes the destruction of bees which make the pollination for 30% of the human food. Loss of vegetal and animal biodiversity, disappearance of some species of plants and animals;
- the genetic modification of grain crops has the effect of reducing the nutritional value of food products and the appearance of some diseases more and more resistant to medical treatments.
- the elimination of the little farmers who supplied diverse, unpolluted food;
- a disrupted food diet, dominated by the exacerbated consumption of animal proteins. In accordance with the FAO data (the World Organization for Agriculture and Food), 30% of the arable land of the planet, are occupied by crops for animals – animals intended for human consumption in Europe and North America – to the detriment of the vegetable crops;
- climate changes manifesting more violently every day, more unpredictable and more frequently, and that establish limitations for the projects and put the future under the sign of uncertainty;
- it represents it, increased degree of urbanization of the population as a result of the labor supply and of income from urban area, represents a demographic threat for rural areas. Reduction in the population in the rural areas negatively affects the offer of the labor force in agriculture having social and economic implications on the natural balance.

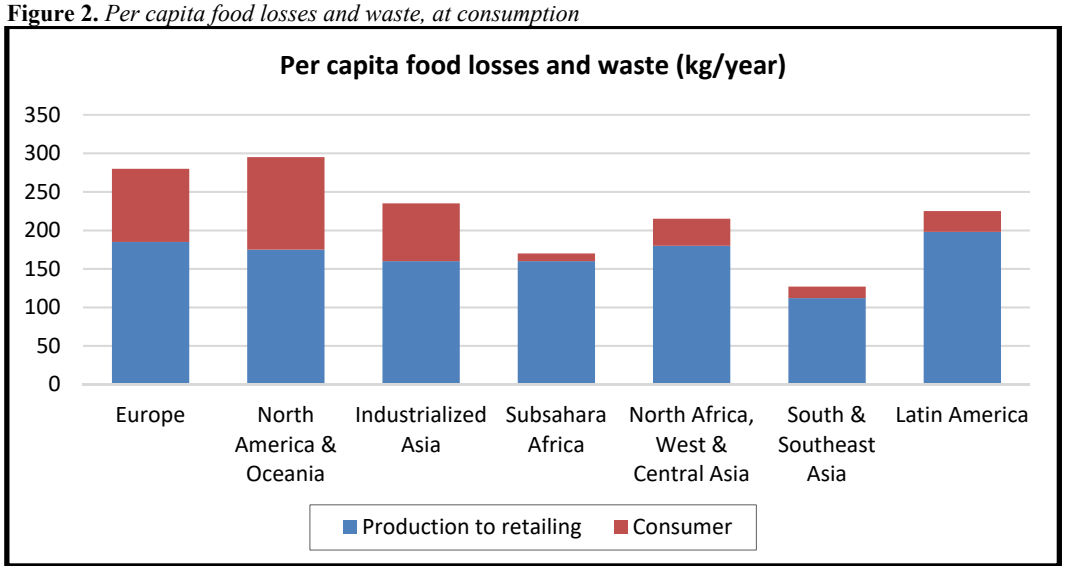
On the other hand, the upward trend in the degree of agglomeration in urban centers, creates problems connected to transportation and disposal of waste bins, aspects which if not dealt with effectively have negative impact on the environment.

3. Waste of food and environmental footprint

One of the phenomena of modern society, with specific socio economic implications blacks is consumerism. Consumerism is a social phenomenon, initiated by the companies promoting the needs and interests of consumers, and which, over the years has become the core of the conviction that, the symbol of the economic success of any company, is represented by the arousing amount of the consumption of products and services.

The amplification of this phenomenon, has been carried out during the period of concentration of retail activities in supermarkets in the big cities, culminating with easy access of population to cheap consumer loans. With the entry into the technology era of the Internet, the consumerism has become a mass phenomenon, through fast access to information and through the increase of the purchasing power as a result of income increase in developed countries. One of the most serious consequences, of the unlimited desire for comfort and welfare shall be geared in an unprecedented waste of food: 1.3 billion tone of the food produced in the world are transformed into food waste ending in the landfills, while 805 million of the inhabitants of the planet suffer from malnutrition (FAO). The largest waste of food, takes place in the United States and Europe (Figure 2). More than 50% of the total waste of food is carried out in the USA, where 80% of the total amount of meat ends in the landfill, the costs with the management of these food waste, rose on an annual basis, in accordance with the report of the UN to a total of 750 billion dollars.

Figure 2. *Per capita food losses and waste, at consumption*

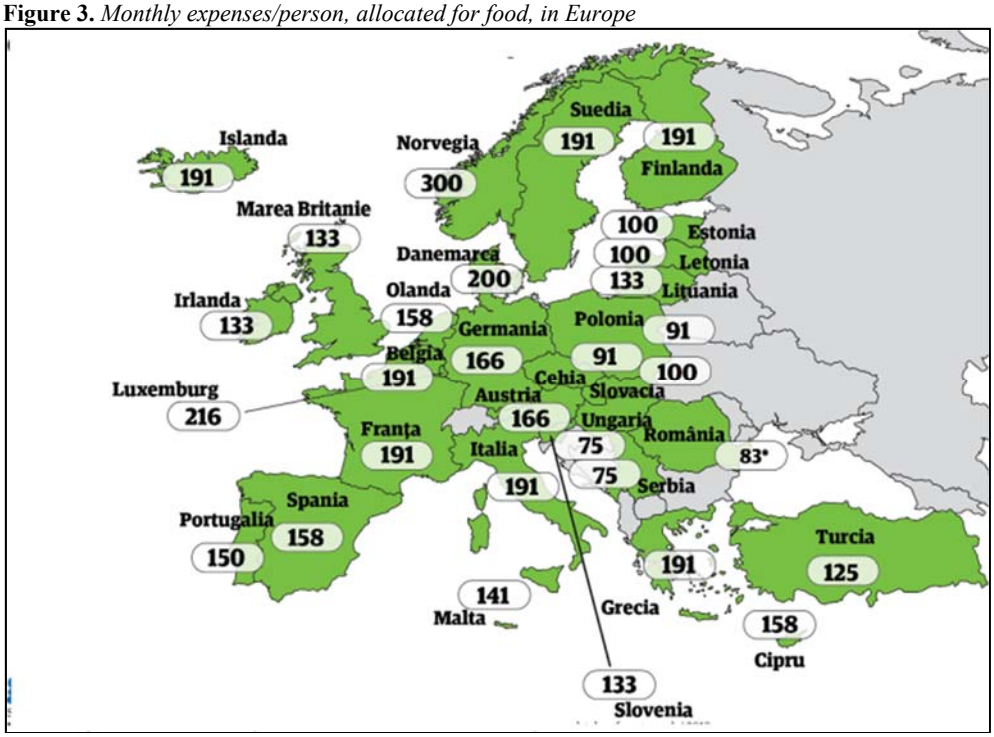


Source: Report of ONU, 2015.

Access to consistent, nutritional and safe from the point of view of quality food, is difficult for many of the inhabitants of the planet. In Europe, as it can be seen in Figure 3 there are significant differences between the countries of the western and Eastern Europe,

as regards the amount intended for monthly expenses with daily food. Norway is the European country where its inhabitants allocated the highest amount for food (300 euro/inhabitant), while in Serbia and Bulgaria each inhabitant, spends on average 73 euro/month for food.

Figure 3. *Monthly expenses/person, allocated for food, in Europe*



Source: Infografic Eurostat, 2011.

One of the causes of wasteful consumption, is the fact that many States prohibit the sale of food under the cost price of the market, which cancels the possibility of sale of fresh food at the end of the day at a lower price thus helping to more food waste at the end of the day. Other causes of food waste may be considered, overproduction, wrong readings of market request, failure to comply with the marketing standards, wrong management of stocks of food. The origin of the waste - food in Romania, on sectors of activity is as follows:

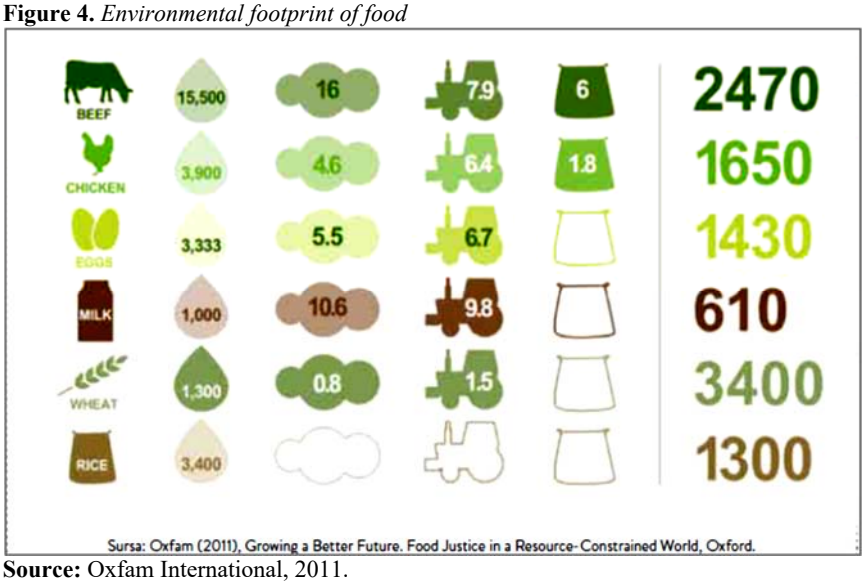
- 49% households;
- 37% food industry;
- 7% retailer;
- 5% catering;
- 2% agriculture.

In Romania there is an annual waste of 2.55 million tons of food from the 100 million tons of food wasted at European level, the inhabitants of urban areas waste 50% of the food products purchased, while 6% – the inhabitants of rural areas and 44% of waste are produced by traders, producers, processors, according to data provided by the Agriculture Ministry. A Romanian wastes 350 gr of food on daily basis, the equivalent of 129 kg food/year.

The increase in the quantity of food waste on national, European and worldwide plan requires a system of efficient management of wastes, so that the waste of resources and the impact of the production and consumption of food, on the environment may be minimal. For the assessment of the effects of wasteful consumption of food on the environment, we use, the unit of measurement called ecological footprint.

The concept of environmental footprint was launched in the year 1990 formulated as a result of the need to illustrate the pressure exerted by the economies of the developed countries and by the increasing population on the environment. Thus, taking into account the total population of the world and the surface for organic production of Earth, it follows that every inhabitant has an environmental footprint of 2.7 ha, a surface completely unsustainable for the recovery capacity of natural resources. The United Nations Development Program, established the correlation between the size of the ecological footprint per inhabitant and the living standards of a country. So it was determined that in the USA, environmental footprint is 8 ha/inhabitant, in Sweden the environmental footprint is 6 ha/inhabitant, and in the majority of the developing countries, environmental footprint is located to 1.8 ha/inhabitant. In Romania environmental footprint is 1.4 ha/inhabitant.

Figure 4. *Environmental footprint of food*



Source: Oxfam International, 2011.

One can observe that the most reduced environmental footprint, is the one of the inhabitants of the still developing countries. However we can not say that in these countries the pressures related to the obtaining of food, on the environment, are small, but the archaic methods of exploiting the land have a negative effect on the agricultural land!

Another source of pollution of the environment, shall be carried out by means of the agro-industry technologies. The activities in the framework of this branch with results of the most harmful effects on the environment are: the manufacture of milk and milk products,

the activities carried out in the slaughterhouses and meat processing industry, the manufacture of sugar, fruit and vegetables, wine industry and alcohol. These activities have negative effects on the environment, not only by the production and pollution with organic materials, but also by the large consumption of energy required by the technological process.

Table 1. *Pollution produced by food industry technologies*

Pollutant	Value (%)
Materials in suspension	24
Organic materials	42,2
Toxins	0,2
Nitrogen N	32,1

Source: Pătrascu and Ungureanu, 2001.

3. Ecological agriculture, the path to sustainable development

The concern for identifying solutions to problems relating to the production of food and environmental degradation has become a feature of the contemporary world. As a result of these concerns, within some international scientific debates the concept of sustainable development has emerged, concept that once with the globalization phenomenon has acquired precise political strains. The concept of sustainable development starts from the premise that the society, the entire human civilization, is a subsystem of the Ecosphere, which depends in a vital way on the flow of energy and raw material, but also on the self-regulation ability of the natural ecosystem.

At European Union level, sustainable development is an objective undertaken as soon as 1997, being included in the Treaty of Maastricht. In the year 2001, has been adopted The Strategy for sustainable development at Gothenburg, strategy that in 2002 at Barcelona expanded to foreign dimension, so in 2006 was adopted the revised European Union's Sustainable Development Strategy. The programs and projects, which are aimed, for the implementation of the strategies for sustainable development in agriculture, pursue, ensuring the safety and security of food supply of the population, have the main effect of increasing economic growth. The welfare of the society in recent years, the progress made in the implementation of sustainable development policies, have created among consumers, increasing concerns for healthy eating, materialized in the interests for agriculture`s sustainability, to the place of provenance of foodstuffs, the mode of production of food, but also for agricultural practices used in relation to the environment, forming the premises for the implementation of the concept and principles of organic farming. Many specialists taking into account the provisions of Regulation EEC 2092/91, consider that the ecological agriculture have the same definition as the biological agriculture or organic agriculture. On the other hand, other theoreticians (Puia et al., 2001), think that agroecology is a branch of the General Ecology that is studying, under the productive aspect, the influences exercised by the environment, on plants and on domestic animals, researches dynamics and the structures of agricultural ecosystems.

Ecological Agriculture is a viable alternative to intensive agriculture, is based on a compilation of environmental principles and concepts which have as their objective the

achievement of an equitable and sustainable agricultural system, so that the interaction between man and nature should be optimal (FAO). Ecological Agriculture is the science, which has a set of concepts and practical techniques, being at the same time also a social process, which by deployment; contribute to achieving production of food and feed safety whilst maintaining the ecosystem and biodiversity of nature, factors for a sustainable agriculture. The most important principles underlying the organic farming in accordance with Regulation EC No. 834/2007 are:

- Improving and maintaining flora and fauna, the natural fertility of soil.
- To reduce to a minimum the use of non-renewable resources from outside the agricultural holdings.
- The recycling of waste and products of animal or vegetable origin.
- Local compliance with the ecological balance.
- Maintaining the health of plants through specific prevention measures.
- Creating good conditions for animals.

In the world, organic farming is practiced worldwide, organized in 164 countries, on a total area of 37.5 hectares, in this activity are involved 1.9 million farmers.

In Europe, organic farming recorded a growth of 6-9% annually, generating a benefit income of 20 billion, the surface of land set aside for the ecological production is 6.7% of the agricultural land of the European Union. According to Eurostat data in the period 2012-2016, in The European Union" the size of the organic area differs considerably from one EU Member State to another. Four Member States accounted for more than half of all organically farmed land in 2016: Spain (16.9%), Italy (15.1%) France (12.9%) and Germany (9.5%), together making up 54.4% of the total EU organic area" (Eurostat, 2016). The Netherlands has a market share of ecological products worth 1.9 billion dollars (2017), respectively Germany, with the market of eco-friendly products worth 1.5 million dollars.

As regards Romania, the favorable conditions such as the fertile soil, low level of pollution of the countryside which Romania benefits of, represent favorable conditions for the development of this system of agriculture. The basic principles of organic farming in Romania are determined by the Emergency Ordinance no.34/2000. Investors in this field benefit from systems of financial stimulation, which are aimed at extending this sector. Thus, through the national program for rural development, by giving subventions, by the Intervention Agency of Payments for Agriculture, and last but not least the financial aid granted by the European Community for the promotion of ecological production – are some of the ways in which the authorities of the territorial range and of the European Union support the development of this sector. The largest area of certified green crops in Romania, can be found in the counties of: Tulcea (49.458 ha); Timis (19.455 ha); Suceava (16.567 ha), Galati (14.731), Alba (14.686 ha); Iasi (13.557 ha); Ialomita (13.205), Bistrita (13065), Brasov (12.192 ha) Cluj (12.015), dynamics of the operators and of the surfaces in the ecological agriculture, can be observed in Table 2.

Table 2. *Dynamics of the operators and of the surfaces in the ecological agriculture*

Indicator	2010	2011	2012	2013	2014	2015	2016
Number of certified operators in ecological agriculture (ha)	3155	9703	15544	15194	14470	12231	10562
Total surface in ecological agriculture (ha)	182706	229946	288261	301148	289251,79	245923,9	226309
Cereals (ha)	72297,8	79167	105149	109105	102531,47	81439,5	75198,31
Dry pulses and protein crops for the production of grain (ha)	5560.22	3147,36	2764,04	2397,34	2314,43	1834,35	2203,78
Tubers plants and roots (ha)	504,36	1074,98	1124,92	740,75	626,99	667.55	707,02
Industrial crops (ha)	47815,1	47879,7	44788,7	51770,8	54145,17	52583,11	53396,86
Plants harvested green (ha)	10325,4	4788,48	11082,9	13184.1	13493,53	13636,48	14280,55
Other crops on arable land (ha)	579, 61	851,44	27,77	263,95	29,87	356,22	258,47
Vegetables (ha)	734,32	914,08	896,32	1067,67	1928,36	1210,08	1175,33
Permanent crops orchards and vine varieties (ha)	3093,04	4166,62	7781,33	9400,31	9438,53	11117,26	12019,81
Permanent crops pastures and meadows (ha)	31579,1	78197,5	105836	103702	95684,78	75853,57	57611,65

Source: MADR, 2016.

In Romania the surface of arable land, green certified for production, is of 300.000 ha and ecological meadows have an area of 500.000 ha (Agrostandard). The production obtained on such areas, shall be exported as a raw material in proportion of 80%. Despite all these, for Romania ecological agriculture does not represent an alternative but an opportunity, because the low level of efficiency is not in a position where it can ensure the internal needs of consumption. Although the ecological food prices are higher than those obtained in the conventional way, the large number of subsistence expenses households, lack of technical modernization, determine the high costs that are difficult to be covered.

Conclusions

The waste of food takes place throughout the food chain, however, the highest waste of food products, shall be carried out at the level of the consumer, fact owed in equal measure to the lack of education of consumers and the gaps in the legislation in this field. Increasing Demand for the ecological products ecology at fast-pace, demonstrates awareness of the society in what are the benefits of these products for both the environment and their own health. Practicing organic farming system may represent a solution to solve the problem of damage to the environment caused by conventional farming practice. The existence and success of agricultural farms practicing organic farming, is determined by the midpoint of production sectors in the organic food-environmental range, such as: the processing of organic products, storage and sales of these products and not in the last line of the final consumers themselves. The economic analysis of these sectors, located in the downstream of the agro-environmental farms, reflects a much greater economic efficiency of those segments, which shows the need for financial support of this sector, through programs as accessible as possible, removal of legislative ambiguities and administrative teamwork of forums for extension and the development of this sector.

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Student's perception regarding bitcoin and its influence on the Romanian digital economy

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Abstract. *Technology's development and growth of Internet have conducted to a new economy, such as digital economy facilitating various e-payments methods and online finance strategies. Nowadays a good example of this, is crypto-currency, the well-known and very popular bitcoin has evolved from its very beginning to the present. It seems that this massive growth and awareness was due to the exchange between websites and companies that accept bitcoin payments for goods and services. The way that Bitcoin has been designed allows the owner to be anonymous. The operating style of bitcoin is based on saving them on a personal computer in a properly executable file as a digital wallet. Based on Bitcoin addresses, these coins can be transferred, moved or sold to other third parties.*

In this paper, we have proposed to analyze the influence of Bitcoin cryptocurrency on economic evolution but also on the links between the increase in value and its use and the technological evolution in the online environment, as well as the limits and the measures imposed by the major economic agents. The case study in this paper is a survey based on an online questionnaire designed for student's perception regarding the use of bitcoin and its influence on the Romanian digital economy, and the sample had 50 respondents. Results has shown that the majority of respondents are familiar with the term bitcoin but there are many of those who cannot realize neither the influence nor the impact on the Romanian digital economy.

Keywords: economy, bitcoin, digital economy.

JEL Classification: J11, O10, M31.

1. Introduction

BitCoin is the first digitally decentralized encryption or simply called virtual currency. The price of a BitCoin is determined by the demand-to-supply ratio. Therefore, the price increases and decreases proportionally to demand. The BitCoin Virtual Currencies in circulation are limited and the new ones are created at a very slow pace. The market price may be extremely volatile due to the fact that there is no cash reserve.

The BitCoin virtual currency has its starting point in 2008, but in 2009, the Nakamoto network was born, which actually mined the first block, called the genetic block, and received a reward of 50 BitCoins.

One of BitCoin's main goals is to avoid a centralized institution that controls transactions between individuals. Therefore, the system requires each user to have a copy of the file. There are, however, anonymity in the system – the names are actually account numbers.

BitCoin is one of the first implementations of the concept called cryptocurrency, first described in 1998 by Wei Dai on the Cyperpunk mailing list.

1.1. The beginnings of crypto-currency

BitCoin's first transactions took place in January 2009. Two years later, various reports estimated that the BitCoin traffic was more than 6.5 million, including about 10,000 users. Decision makers around the world have been concerned about BitCoin's anonymity (Blau, 2018).

BitCoin is a virtual currency, which cannot be kept in physical form, being developed by people on the basis of programs that solve mathematical problems, using high performance computers. This crypto currency concept was created by Satoshi Nakamoto, and developed by the newly formed Nakamoto network. In January 2009, the first block, called the genetic block, was actually mined.

BitCoin was the first decentralized currency to be created in a period of financial crisis. Since its introduction, BitCoin has continued to be the most widely used virtual currency and holds the first place in terms of market value, total capitalization of the virtual currency market and the number of daily transactions. Also, the number of companies that support BitCoin is steadily increasing (Ciaian et al., 2018).

In 2013, there were two hearings of the Senate Commission. In committee hearings, testimonies about digital anonymity have generated additional concerns.

Senator Chuck Schumer, for example, compared BitCoin as a form of money laundering online. Shortly after the testimony of Congress, there was a forum in Washington DC, where concerns were raised about how anonymity could be used to purchase child pornography. These concerns lead to the creation of a Senate working group that trained experts in the digital world.

To date, millions of BitCoin remain in circulation and, in general, the use of digital money remains unregulated in the US (Blau, 2018).

BitCoin consists of three main parts: miner, block and wallet. These three parts form the BitCoin network. The miner ensures and processes transactions to prevent double

expenses. According to the researchers, "mining is the act of creating valid BitCoin blocks that require proof of work, and miners are devices that are mine or those who own these devices" (Presthus and O'Malley, 2017).

From a technological point of view, BitCoin is actually a new type of database, allowing anyone using it to participate in the BitCoin network. It differs from a traditional relational database in the sense that no one can update or delete a transaction. BitCoin is independent of the Internet, but needs a communication channel, such as radio waves. BitCoin is not an intrinsic currency, but a unique unit per block. The BitCoin owner can transfer the ownership of another person (Presthus and O'Malley, 2017).

BitCoin is one of the innovative forms of "digital coins" with state-of-the-art features, transparency and simplicity in use. It received more attention than other cryptocurrencies, such as Ripple and Litecoin, and captures 41% of CryptoCurity capitalization. The popularity of recent years has attracted the interest of researchers and practitioners, especially in search of a better understanding of BitCoin's various features, such as price volatility, price grouping (Tiwari et al., 2018).

BitCoin, an emerging digital coin, has gained a remarkable popularity over time. Due to BitCoin's advantage, it has a significant impact on the economy and technology. Different from the traditional monetary system, BitCoin is a decentralized crypto-currency, lacking the supervision mechanism of a bank or authority (Huang et al., 2018).

BitCoin as a concept was invented in 2009 and can be described as an open shared database. What makes BitCoin unique is the fact that for the first time it can be demonstrated and moved to any digital element without a central authority.

Technology has many advantages, one of which is that it is a global digital coin and it can be seen that some stores allow virtual money payments (Presthus and O'Malley, 2017).

BitCoin is defined by Satoshi Nakamoto as: "A purely person-to-person cash version (which allows) to send online payments directly from one side to another without going through a financial institution." Nakamoto has proposed a peer-to-peer network without central authority. In this network, it is possible to demonstrate and change the ownership of a digital unit called BitCoin. Nakamoto soon created the first block on the chain, and BitCoin became a reality (Presthus and O'Malley, 2017).

1.2. Evolution

BitCoin growth has triggered a great deal of interest not only among users and virtual currency investors, but also in the scientific literature that has extensively analyzed BitCoin pricing. (Ciaian et al., 2018)

BitCoin's success has led to the emergence of several alternative (alcoins), such as BitShares, Ethereum, Dash, DogeCoin, LiteCoin, PeerCoin, Ripple. Most virtual coins are based on the same lock technology as BitCoin and aim to complement each other or improve certain features of the remarkable vitreous, namely BitCoin (Ciaian et al., 2018).

Lately, BitCoin has been the focus of attention, both in mass media and in the attention of big world investors. This increase in attention can be attributed to its increasingly

innovative features, simplicity, transparency and popularity (Urquhart, 2016), but it also poses great challenges and opportunities for decision-makers, economists, entrepreneurs and consumers and developers of technology (Urquhart, 2018).

BitCoin has seen a significant increase since its introduction in early 2009. While digital coins have been proposed and developed since the 1980s, BitCoin was the first to have a huge impact on investors and the population. The total value of all today's bitstream brands is about $ 28 billion, and has inspired tens of competing cryptocurrency that follow a similar design (Gandal et al., 2018)

BitCoin and most other CryptoCrats do not require a central authority to validate and resolve transactions. Instead, these currencies only use cryptography (and internal stimulation) to control transactions, manage offer, and prevent fraud. Payments are validated through a decentralized network. Once confirmed, all transactions are stored digitally and recorded in a public "blockchain" that can be considered an accounting system (Gandal et al., 2018).

1.3. Perspective

One of the most important benefits of the BitCoin virtual currency is the payment release, which can translate the possibility of receiving any amount of money in any corner of the world at any time. This is a decisive asset, noticeable by lower taxes on conventional credit card payments. However, any user may include a fee to get preference in transaction processing, which is confirmed by a quick confirmation of network transactions.

Transactions with BitCoin are irreversible, which is another substantial advantage Transactions do not contain customer data. This protects traders from damage caused by various fraud methods. Through this system, users are more secure because it is impossible for traders to force hidden payments or unwanted commissions.

The national banking authorities in several countries took a stand and argued that they were not looking for the appearance of an unregulated coin on national territory. There are bans who banned transactions, but not many, because although BitCoin is not the first digital currency launched, it has proven to be much better built, winning many supporters among serious retailers. Having a good image in many places, BitCoin has grown heavily, with ATMs in many countries, as well as places where you can pay for a tea or a taxi ride.

The popularity of BitCoin virtual coins continues to grow unexpectedly. Although it is only a form of virtual cash, there is an increasing number of cafes and bars that accept BitCoin as a payment, which has been discovered since the beginning of 2014. In the literature, BitCoin has been extensively analyzed in the past years (Feld et al., 2014).

The remarkable property of BitCoin is the absence of a central authority or a currency issuer. Instead, the new BitCoin coins are constantly issued at a specific rate through the so-called "mining" phenomenon. Transaction execution is also monitored and reviewed by the P2P network. Therefore, network participants work towards a collective consensus

on the validity of the transaction and add it to the public history of already confirmed transactions (the so-called "blockchain") (Feld et al., 2014).

Beginning in May 2016, the BitCoin has a total of 7200 million euros in the form of 15.8 million BitCoins; this digital currency is expected to exceed 5 million users by 2019 (Pinzón and Rocha, 2016).

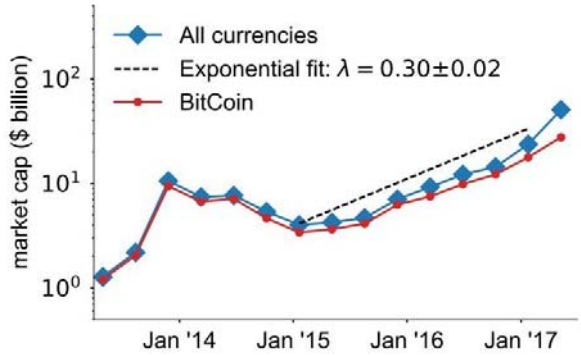
Although it has an uncertain evolution, both with upward and downward trends, the value of the BitCoin virtual currency continues to be the subject of a permanent study in the literature. The interest of investors is as great as the transparency and technical properties that this type of currency has.

BitCoin has recorded several dramatic drops over time. In 2017, December 7 showed that the value of BitCoin could vary considerably. Thus, at the beginning of the day there was an upward price up to $ 19,697 then a fall to about $ 15,100.

Thus, BitCoin is a digital coin that avoids the need for a trusted third party. Instead, this digital coin is based on the concept of "proof of work", which allows users to execute payments by signing transactions digitally. Because electronic files can be duplicated, fraudulent transactions in the form of double attacks – where users spend the same money at least twice - can happen.

Since the first transactions in 2009, BitCoin has had a relatively stable evolution by 2011, the exchange rate against the US dollar rising from $ 0.30 for a BitCoin (BTC) to about $ 17. At the beginning of 2011, a number of issues of entities doing dollar-denominated transactions led to a rapid drop in the $ 5 / BTC rate.

Figure 1. *Evolution of Bitcoin*



Source: Emerging Technology, 2017.

The implementation of Bitcoin technology has been astonishing, which leads today to opening up new opportunities in terms of opportunities and capitalization (Vliet, 2018).

2. Methodology research

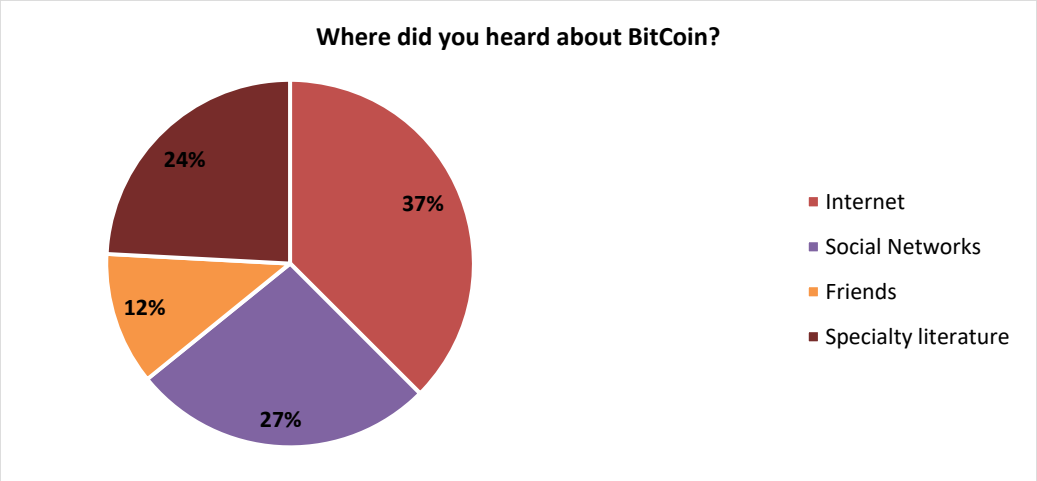
In this article we conducted a research on students' perception of the use of bitcoin cryptocurrency, and we tried to identify both the influence of these coins on the digital economy in Romania and the degree of understanding of these effects by the students.

After analyzing and interpreting the results, we obtained the following:

Bitcoin's degree of notoriety amongst students and sources of information:

- *Most of the students have heard about Cryptocurrency Bitcoin (the main source of information being the Internet, followed by the social networks in which they learned about the existence and evolution of the cryptocurrency);*
- *24% of them found out about other cryptocurrencies from other sources, but they were interested in the subject and read specialized literature, noting that they actually understood the meaning of bitcoin, how it works and what the impact factors of it.*

Figure 2. *Notoriety of BitCoin*



Source: Made by author's documentation.

Further, the students were questions that they might say about BitCoin, and who consider the implications of this coin for the economy, and their answers led to the following general conclusion:

- *Cryptocurrencies are a technical innovation disrupted by the traditional economy, with the potential to change and update a global economic structure. Taking into account the fact that these baskets allow digital transactions between two parties without the need for an intermediary, it facilitates many financial exchanges with economic agents. The public financial management of digital financial resources, a generation of revolution among most financial institutions that play an essential role in this type of digital money.*

The following questions in the questionnaire referred to the use of cryptocurrencies on the Romanian market in order to identify the main implications of digital coins in the local economy and their degree of acceptability in the current financial environment as follows:

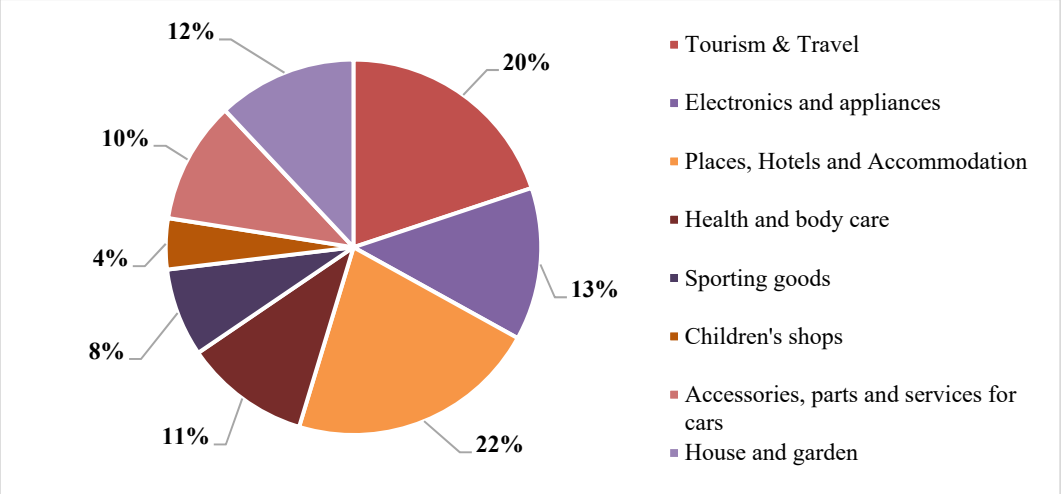
What types of services do you know accept payments made in cryptocurrencies on the Romanian market? (Multiple Answer Question)

The responses showed that students have knowledge of the evolution of the digital market and the types of stores where goods or services can be purchased through the digital coin.

As we can see from their answers, most of the students are aware of the possibility of using digital coins in "Places, Hotels and Accommodation" stores, followed by "Tourism and Travel".

They argued their answers by saying that "Most travel companies in Romania have in their offer and services from abroad, which is why they had to accept the payment methods accepted by their bidders".

Figure 3. *Lists of shops accepting Bitcoin in Romania*



Source: Made by author.

3. Conclusions

In conclusion, we can consider Bitcoin as one of the most impressive innovations in the financial and digital world. Having different meanings, it has become an alternative to regular online transactions, bringing sellers and buyers face to face, lack of intermediaries being an advantage of this cryptocurrency. However, all these opinions, whether pro or otherwise, have as their center the volatility of the digital currency. The sudden changes in value make this market a low-efficiency one, but low levels of prices allow more and more users to enter this industry. At the same time, as an open network, anyone can invest in this cryptocurrency, but he must be prepared for losing his money.

As for students' perception of this new financial innovation, we can say that because of their interest in new things, the BitCoin digital currency has quickly gained popularity among students, both due to its financial specificity and due to the technological digitization and the novel factor that is brought in discussion. On the Romanian market, this has had a major impact on the national economy, as more and more stores are adapting and accepting transactions with digital coins.

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The chocolate market at global level

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Abstract. *Chocolate is one of the most desired food, being available in a variety of colors, shapes, and tastes. The chocolate industry is the "guilty pleasure" business and represents a market of millions of euros per year, chocolate being one of the most profitable components of the confectionary industry globally.*
Globally, the evolution of this market can be influenced by the main players transactions, fluctuations in raw material prices, dependence on supplying cacao to unstable economies and climate changing which affect crops, and last but not least changing consumer preferences from tastes, product segments (premium range) and attention to nutrition, health and wellness.

Keywords: chocolate consumption, business, 3D chocolate printing, cocoa production, health.

JEL Classification: E23, I12, O31.

Chocolate is the product of great popularity, being among the most consumed foods in modern society. For this reason, we have directed our attention to the analysis of the field and we will try, as far as possible, to conduct a pertinent research on it. From the outset, we should mention that this product is at the forefront of the "stereotype of acquisition and consumption" of the modern individual. Under its various forms, chocolate flavors and colors are consumed as food, energizing, relaxing, cosmetic treatment, and, after some studies, contribute to the growth of intelligence (a KeysFin analysis).

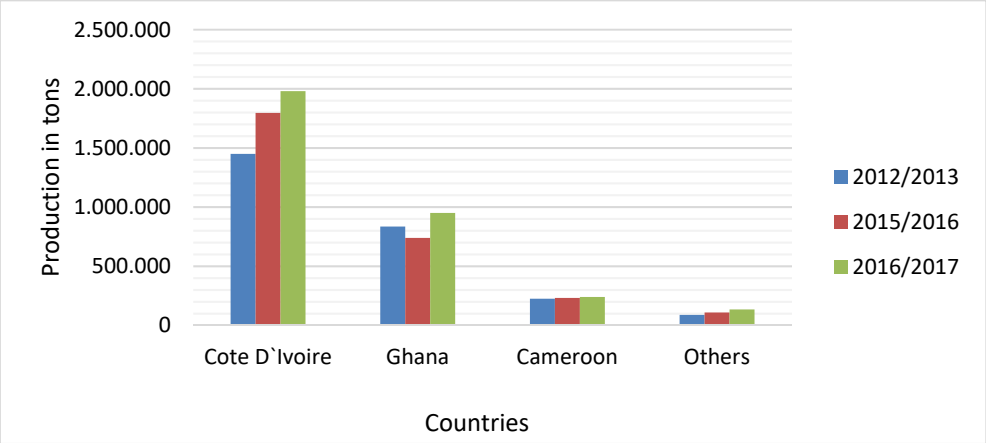
The fascination for this product dates back to the Aztec Empire(1), when cocoa beans were used as exchange coins, a slave worth 100 cocoa beans. If at first chocolate is consumed in liquid form, since the 15th century when it came to Europe, chocolate was a privilege of royalty and nobility. The popularity of chocolate has determined that today it can be found on the market in a multitude of confectionery, pastry, ice cream and chocolate products in different shapes and sizes.

Increased interest in health and a "healthy lifestyle" forced manufacturers to diversify their assortment of "lifestyle" products. Moreover, the producers in the field today, in order to meet the expectations of the customers, generate a wide assortment of products, especially in the category of healthy chocolate candies. Ingredients such as: organic, vegan, sugar-free and gluten-free chocolate are becoming increasingly important in the industry, from the need to meet the ever-increasing demand for chocolate consumers in the "lifestyle" category. At the same time, the increasing awareness of customers about the harmful effects of synthetic products influences the increasing demand for organic chocolate.

Consumers prefer premium chocolate because they are aware of brand and product quality. Manufacturers are launching new premium chocolates to attract customers focusing on price, packaging, ingredients, provenance, purchasing point, authenticity and branded experience, resulting in a significant increase in the chocolate market. Customers are willing to pay extra to buy seasonal candies during the festivities. The increasing number of holidays and special occasions will lead to increased sales and demand for chocolate, which will consequently lead to market growth.

Global chocolate market. Trends and perspectives

The African continent is the world's leading cocoa supplier, the main ingredient in the chocolate industry. If we report only to Côte d'Ivoire, we notice that it is bringing about a 30% increase in global demand for this ingredient, accounting for two-thirds of the revenue contributing to that country's GDP. It is followed by Ghana, which contributes sixth to GDP, Indonesia and Nigeria.



Source: https://www.icco.org/about-cocoa/chocolate-industry.html

Increasing pollution, extreme weather phenomena and global warming have a significant impact on food production and the result is expensive food. This category also includes coffee and cocoa production. Major market players like Mars are looking for alternative solutions to diminish these effects in an attempt to reduce their financial breakthroughs.

According to figures, 90% of the total cocoa beans are consumed for chocolate production and more than 4 million tons of cocoa beans are produced year (data obtained by BizVibe). Global production of cocoa beans in 2015 reached a maximum of 4.36 million metric tons. Ivory Coast, is the largest cocoa-producing country in the world, with 1,472 million metric tons of cocoa production in 2016. Together, the top 10 chocolate manufacturers in the world have had sales of over $ 80 billion in 2016. According to experts, the chocolate market is currently focusing on the development of various products (flavors, ingredients, etc.), many in limited editions, one of the current trends being linked to the production of organic chocolate, vegan, sugar-free gluten.

The quality of coffee, cocoa and tea production is currently being monitored through the UTZ Certified program. It provides an additional guarantee and provides special status to specific agricultural products. According to the data gathered, we notice that the number of certified farmers is steadily increasing, 116 countries taking part in this program. Since 2014, this program has developed a global strategy geared towards the sustainable cultivation of coffee and cocoa beans. According to ICCO (3), around 21% of cocoa farmers are certified globally, and cocoa production of 2017, which have been sold with UTZ certification, is estimated to be around 76%. Therefore, the phrase "lifestyle" is no longer a simple call to the products incorporated in these coordinates. It tends to become a model for a select target audience, concerned about raising its own standards of living and eating. The price of cocoa beans varied between 3078$/kg in 2016, about 2000$/kg in 2017 to peak in April 2018 to 2625$/kg. (https://ycharts.com/indicators/ world_cocoa_price)

Analysis of the chocolate market specificity

Worldwide, according to analyzes by ICCO (https://www.icco.org), the following chocolate companies made the following net sales in 2017:

Top global chocolate companies in 2017

	Chocolate Producers	Net Sales 2017 (billion $)
1	Mars Wrigley Confectionery	18
2	Ferrero Group (Luxembourg / Italy)	12
3	Mondelēz International (USA)	16
4	Meiji Co Ltd (Japan)	9.6
5	Nestlé SA (Switzerland)	8.8
6	Hershey Co (USA)	7.5
7	Chocoladenfabriken Lindt & Sprüngli AG (Switzerland)	4.1
	TOTAL	76

Source: https://www.icco.org/about-cocoa/chocolate-industry.html (Reference: *Candy Industry*, January 2018).

From the World's Top Exports ranking in 2017, we chose the world's largest chocolate exporters, making a selection of countries that have maintained their place in the previous year or have seen increases in export volumes. (http://www.worldstopexports.com/chocolate-exporters/)

Place at global level	Chocolate Exporting Countries	Net Sales 2017
1	Germany	4,5 billion $
2	Belgium	3 billion $
3	Italy	2 billion $
6	Poland	1.5 billion $
10	Switzerland	851.7 billion $
15	Spain	445,3 billion $

Source: http://www.worldstopexports.com/chocolate-exporters/

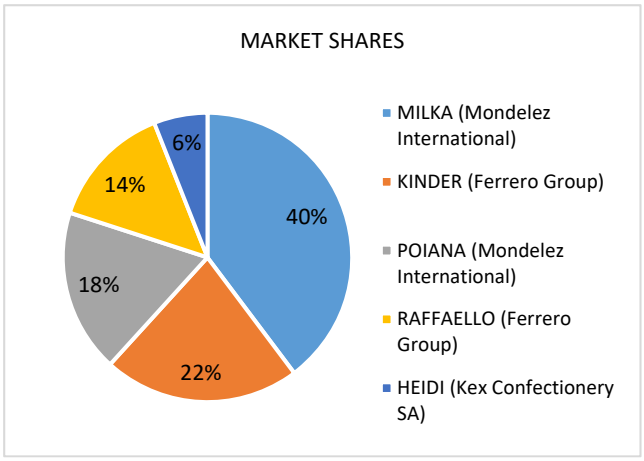
The chocolate market is dynamic and attractive with a rich and innovative range of choices, and the consumption of chocolate in Romania, although having an increasing trend of 2.2 kg of chocolate/per capita, is below the European average of 10 kg of chocolate.

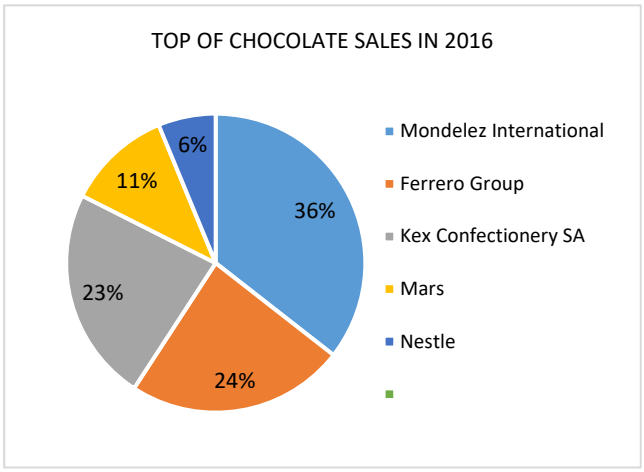
Countries	Consumption Per Capita (KG)	
	2013	2017
Romania	1,4	2,2
Bulgaria	3,2	3,2
Poland	-	5,5
Germany	10,1	9,5
Switzerland	9,1	11

Source: Euromonitor International.

Consumption of sugar products in Romania averaged 157 grams per capita in 2016, with consumers being employed (INS) and 60% female. KeysFin analyzes (http://www.keysfin.com) show that most chocolate consumption is recorded in Bucharest, where most companies in the country also operate. On the chocolate production segment, Nestle (783.6 million lei turnover) is the first place, followed by Kandia Dulce SA (161.4 million lei), Heidi Chocolat SA (106.2 million lei), Mueller and Friends (19.1 million lei). (KeysFin- http://www.horecainsight.ro)

The main players on the Romanian market of the most sold brands are also found in the world ranking as follows:





Source: Forbes (Euromonitor International).

The evolution of the Romanian chocolate market, which has seen significant increases in recent years, the data provided on chocolate sales are: 1,72 billion Lei (2016), 1,80 billion lei (2017) and Estimates for 2018 being 1,9 billion lei, and for 2021 about 2.18 billion lei according to Euromonitor International (https://www.forbes.ro). Analyzing this increased profitability market has led the sector's business to reach 4.5 billion lei in 2016 and the preliminary data on the evolution of 2018 indicate a growth outlook of 5 billion lei. (http://www.horecainsight.ro)

The performance of the human society in the field of industrial development has as its starting point the 18th century England, with the appearance of the first steam machines, and later of the electric powered machines. The emergence of computer and internet access can be considered the third industrial revolution. Modern technology is

characterized by automated and robotic lines which leads to an unprecedented evolution in the industrial field by improving manufacturing processes with increased production and results close to perfection.

The traditional production of chocolate is made with the help of specialized casting machines (Aasted, 1998; Beckett, 2009). Depending on the printed patterns of chocolate tablets, their weight, designs, different flavors or taste combinations (Aasted, 1998), industrial equipment is used for efficient production. The consumer society is creating more and more sophisticated products, from tastes to personalized forms, even unique, but the manufacture of these products is still expensive (Beckett, 2009).

The prototypes of 3D printers from the chocolate industry have appeared in England (https://chocedge.com/)(1) and US CocoJet Hershey, Lipson(2) which, as promoted by its creators, is maneuverable and innovative in terms of recipes. 3D printing has been widely used in the medical field, astronautics industry, food processing industry and building materials industry.

Launching CNC printers (computer numerical control) in the chocolate industry is triggering a new food trend. It is not just taste and essence, but also forms, colors and personalization. Trends in the field align the chocolate market with the demands of consumers by developing three-dimensional printing technology. 3D food printing can generate both benefits for prospective customers and maximize profits for companies.

3D print of chocolate gives a high degree of processing, a processing flexibility that saves time, money and energy [4.5]. The use of 3D printers in chocolate making is a technology which laminate chocolate layer by layer in the desired shapes, providing superior quality and unlimited customization possibilities. The frequent promotion of a "healthy lifestyle" (Boland, 2008; Martínez, 2008) altered the behavior of these individuals, being interested in health by checking their blood pressure, pulse, calorie burning on their mobile phones. The development of these printers will result in a "printing-cartridge" food, personalized according to the body's daily requirements.

Applying 3D printing technology to the chocolate industry is an innovative approach, and custom chocolate products, although meets customer requirements, due to longer delivery times and higher prices than traditional chocolate products, cause them to opt for basic chocolate products. As the market demand for personalized chocolate continues to grow, costs are a challenge for many players in this industry.

Conclusions

The future of chocolate is promising, although the global market is facing many difficulties related to the fluctuating supply of cocoa beans based on the increase in demand, but also to the efficiency of the production and distribution activities of the main players. Thus, there are job cuts, sales, or mergers of big market players. The latest ones were made by Hershey (significant layoffs in the US) and Nestle sold its US operations to Ferrero. (https://www.retail-fmcg.ro)

At global level, intensive efforts are being made to limit the harmful effects on health, the consumption of sugar, the significant increase in the number of people suffering from obesity or diabetes, especially among children, international organizations seek to take measures reduces the amount of sugar in products by up to 20%. There is an increasing number of consumers willing to adopt a personalized nutrition, with a high degree of individualization, at a high price.

Chocolate remains a pleasure, which is discovered every day in a variety of shapes and colors, the newest piece being the ruby launched by Barry Callebaut AG, in addition to the black, white and bitter ones. Asia, which does not have a long tradition in chocolate production and consumption, enthusiastically discovers the "food of the gods". In addition to being very flavorful, tomorrow's chocolate can also have different forms and beneficial properties for health.

Notes

(1) Choc Edge Ltd is an Anglo-Chinese technology company that provides ALM chocolate printing solutions to businesses and individuals who wish to design and produce creative chocolates. We are the pioneers of 3D chocolate printing and the initiators of the current food printing revolution.

(2) Lipson printer, uses 3D printing as a universal technology that has the potential to revolutionize lives by enabling us to design and manufacture things with unprecedented freedom.

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<https://www.history.com/topics/history-of-chocolate>
<https://www.icco.org/about-cocoa/chocolate-industry.html>
<https://utzcertified.org/nb/newsroom/utz-in-the-news/26584617-2013-bringing-good-practice-to-scale?offset=370>
<https://www.economist.com/node/21553017>
<https://www.bizvibe.com/blog/top-10-largest-chocolate-companies-world/>
<https://www.worldatlas.com/articles/top-10-cocoa-producing-countries.html>
<http://www.insse.ro/cms/rw/pages/index.ro.do>
<https://www.researchgate.net/publication/273331259_Investigating_the_Feasibility_of_Supply_Chain-Centric_Business_Models_in_3D_Chocolate_Printing_A_Simulation_Study>
<http://dpi-proceedings.com/index.php/dtcse/article/viewFile/9434/8998>
<https://www.researchgate.net/publication/316867411_Design_and_Implementation_of_Chocolate_3D_Printer>
<https://www.retail-fmcg.ro/fmcg/nestle-divizie-ciocolata-ferrero.html>
<https://www.researchromania.ro/2014/03/ciocolata-preferata-romanilor-euromonitor/>
<http://dpi-proceedings.com/index.php/dtcse/article/viewFile/9434/8998>
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GDPR – "A new era" for the data protection legislation

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Abstract. *The main aim of this paper is to examine the biggest changes made to the regulatory regime of data protection under the current directive and GDPR. In doing so, the article is concentrated on main updates GDPR brings such as the introduction of new rights for individuals and a comparison according to the current Data Protection Directive 95/46/EC across six European countries: United Kingdom, Germany, Netherland, France, Italy and Romania, which focuses on five important approaches to personal data protection: the right to privacy, laws and regulations implementation, data protection authorities, privacy officers and data protection impact assessments.*

Keywords: data protection, GDPR, Directive 95/46/EC, data protection officers, data protection impact assessments.

JEL Classification: H56, K00, K38.

Introduction

In the recent years, the globalization, the important technological progress and the development of the new business models led to an increasing collection and processing of the personal data. Also, the Internet has exploded and has changed substantially the concepts of privacy, consent and access.

Due to the legislative gaps caused by the rise of big data, social media and the increase of the digital world, after twenty years of applicability, the current data protection regime has required a review to be consistent with the current reality.

European Commission has initiated in January 2012 the reform process to replace the current Data Protection Directive created in 1995 and, after four years of a protracted legislative process, the General Data Protection Regulation, known as GDPR, was adopted on April 2016. Across all 28 European Union Member States, the former Data Protection Directive 95/46/EC was replaced in May 2016 by the GDPR, which will become mandatory starting with 25th of May 2018. All the companies, regardless of the entity's location, from the public as well as the private sector, who in their positions as processors or controllers are processing personal data about the data subjects that reside in the European Union, need to be compliant with the new data protection framework until the enforcement date of the regulation.

The research has two main objectives: the first aim of this paper is to observe the biggest changes under the new data protection framework (GDPR) and the second goal is to provide a comparative analysis of the current data protection framework, Directive 95/46/EC across six European countries to examine which countries are lagging and which countries are frontrunners in the implementation in the national laws of the privacy and personal data protection. Given that the deadline for GDPR is coming closer, the results of the research are relevant for companies that process personal data of data subjects residing in the European Union, regardless of the company's location, who need to implement the new data protection requirements since 25th of May 2018.

This research has the following structure: a brief overview of the literature review is provided in the second section of the paper, the research methodology is presented in the third section of the article, the fourth section contains the biggest changes under the new regulatory framework (GDPR) and a comparative analysis of the legal environment of data protection under the current Data Protection Directive 95/46/EC across six European countries and the fifth section outlined the conclusions.

Literature review

In the academic literature, the subject on the data protection in the context of the ongoing data protection reform process and the main updates under the GDPR Regulation has been analyzed by many researchers.

Mantelero (2016) note that the new general data protection regulation has been introduced as an answer to the challenges of the evolving digital environment.

Hert and Papakonstantinou (2016) concluded that GDPR leads to a reason enough to celebrate: inconsistencies and lack of harmonization that attracted so much attention over the past decades and led to impasses due to technological developments and internet business trends now finally have the means to be addressed in an effective and satisfactory way.

Helvacioglu and Stakheyeva (2017) considered that the GDPR data protection regime allows a better data protection to the individuals and to some extent simplify life of (business) organizations by way of providing detailed rules for lawful processing of personal data.

Giurgiu and Lallemang (2017) shown that these new rules under GDPR are thus of high relevance for all the actors who are processing personal data in their positions as controllers or processors, including the actors of the financial sector. Banks are already rethinking their business models in order to remain competitive in light of the Fintech revolution with the ultimate goal of reaching a harmonized triad between client, technology and the financial service that allows personalized customer support, at anytime and anywhere.

Hert et al. (2018) reveal that the impact of the right to data portability is particularly relevant both on the data economy and the control rights of individuals, can be the opportunity to foster interoperability of services, increase competition between digital services and develop more and more user-centric platform for the management of personal data and it represents the first theoretical step towards a default ownership of personal data to data subjects.

There are other papers that criticize certain data protection rights on the GDPR framework. For example: Byrum (2016) explained how the European right to be forgotten violates the free flow of information in society, as evidenced by the conflicts with the United States Constitution and ethical principles of professional communicators worldwide. On the other hand, there are other voices such as Lee (2016) which shown that the right to be forgotten has provided an opportunity to consider privacy in a digital age.

Methodology

This paper provides a qualitative evaluation of the current data protection framework, Directive 95/46/EC across six European countries: United Kingdom, Germany, Netherland, France, Italy and Romania.

The frameworks have been tested based on the five criteria:
1. Right to privacy.
2. Laws and regulations implementation.
3. Data protection authorities.
4. Privacy officers.
5. Data Protection Impact Assessments.

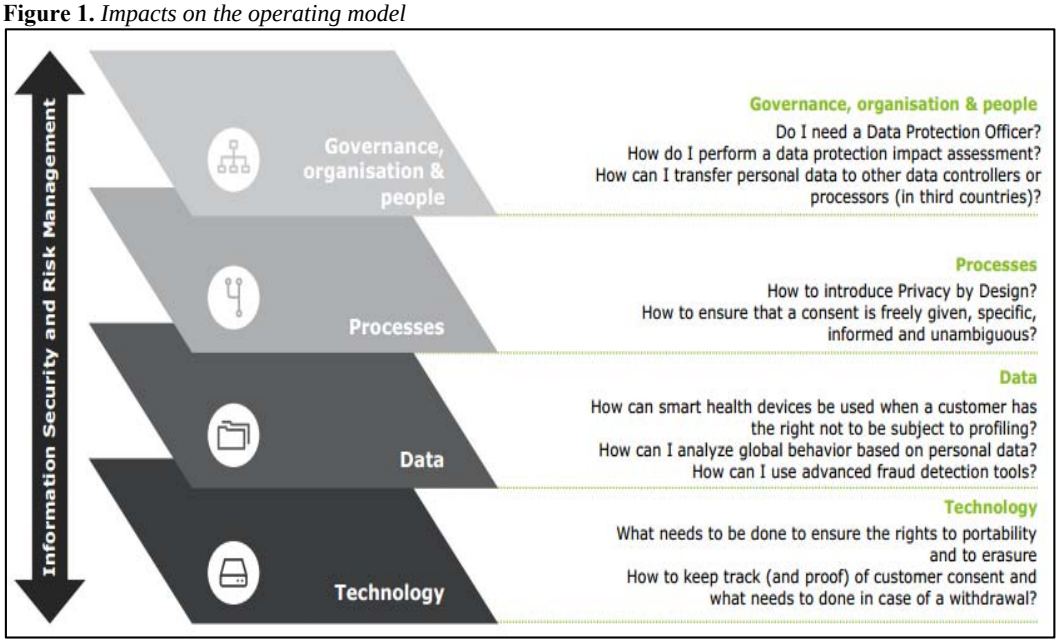
Results and discussions

The origins of the data protection regulations in Europe can be considered in the "era of the computer revolution" that happened in the late of 1950s years, when a lot of personal information regarding individuals was made publicly available. The first generations of data protection regulations were characterized by a national approach. An important step in the evolution of the European data protection legislative framework and in the unification of the existing data protection laws, which existed in each member states, was represented by the European directive 95/46/CE in 1995, at the beginning of the digital age. The future generation of regulations in the "big data era", represented by the General Data Protection Regulation (GDPR) enforceable since 25th of May, 2018 is "different from the previous period both in terms of economic and technological context, with direct consequences on the adequacy of the legal framework adopted to protect personal information. The new environment is mainly digital and characterized by an increased concentration of information in the hands of a few entities, both public and private" (Mantelero, 2014, p. 12).

The biggest changes under the General Data Protection Regulation

The reform process that will be replacing the existing data protection framework created in 1995 is a major revision of the current regulation, aimed to establish a new level of data protection across all 28 European Union Member States, addressing specific emerging technologies that, over the years, have represented new challenges in the area of data protection.

Figure 1. *Impacts on the operating model*



Source: Deloitte Tax & Consulting, 2016: p. 11.

Compared with the former data protection regulation, GDPR brings significantly updates such as: the introduction of new rights for individuals like: the right to be forgotten and the right to portability, the introduction of mandatory breach notification, performing data protection impact assessments, using privacy by design concept, the compulsory requirement to have a data protection officer and the penalties up to 4% of annual global turnover or EUR 20 million. GPDR will impact especially four layers of the operating model. Figure 1 presents some examples regarding the impacts on the operating model.

The right to be forgotten

The right to be forgotten (known also as right to erasure) represents a controversial concept that captured the attention of all and privacy protection in a digital age in which the internet never forgets is a very difficult aspect to control. Some postings on the Internet keep forever and many people would like to get rid of their past posted on the Internet deliberately or accidentally. For many people in the world, social media by internet connection of smartphones became a part of their lives that inevitably comes with the loss of control over their personal information and, of course, loss of privacy. For example Mark Zuckerberg, Facebook's founder Mark Zuckerberg said that the privacy is dead and also, Science, the world's largest circulation science journal in January 2015 contains a special session related "The End of Privacy" in which this issue was addressed.

Article 17 of the framework allows to individuals the right to delete their personal information by data controllers in some specific situations. The right to be forgotten in the "coming era of big data" has provided an opportunity for information technology companies. While the regulators discussed measures, the companies should implement these measures to be compliant with the legislation, some technological companies come with solutions. For example: Santa Cruz Casting Company Co in Korea started, since November 2011, a deleting service with costs between 412 USD and 4,120 USD depending on the amount of data that should to be deleted. Other companies have launched smartphones with functions through which users can delete messages or send messages, photos, or videos that were destroyed within seconds. Facebook by Messenger app allows to send photos and videos that were destroyed within seconds. Moreover, Ansa allows to delete messages remotely, from another person's device, before they read it.

Given the controversial issues related to the application of the right to forgotten, the people should be encouraged to take more care of their personal information. "In October 2014, the New Yorker published a story about an artist who offered cookies in exchange for personal information, such as the first pet's name, a mother's maiden name, home address, or the last four digits of a Social Security number. Surprisingly, nearly 400 people gave away their personal information in exchange for a cookie, whereas only

20 people refused for security reasons. This story raises a question whether an individual's privacy should be ensured when they themselves renounce to their privacy and personal data so easily in exchange for small things like a cookie" (Lee, 2016: p. 3).

The right to data portability

The right to data portability in the GDPR represents a full novelty, whereas anything comparable to personal data portability has not been implemented before in any field of law. Small references to the legal framework of the data portability there are in the telecommunication sector (by example number portability). Article 20 of the regulation notes that "the data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured and commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the data have been provided" (European Parliament and Council of the European Union, 2016: p. 45). Some companies from United Kingdom give data portability via midata.

Comparative analysis under Directive 95/46/EC across six European countries

The actual legal framework of the data protection is ensured for all European States by the Directive 95/46/EC. The legislation of data protection has been implemented differently across the 28 countries of the European Union. In order to analyze how a country is positioned compared to other EU Member States regarding the specific features of the regulatory framework on data protection, this section of the research presents a brief comparison according to the current data protection framework, Directive 95/46/EC across six European countries: United Kingdom, Germany, Netherland, France, Italy and Romania. The analysis is focused on five important approaches to personal data protection: the right to privacy, laws and regulations implementation, data protection authorities, privacy officers and data protection impact assessments.

1. The right to privacy

The concept of the right to privacy can be defined as a subjective right protecting the individual interests of natural persons. Warren and Brandeis (1890) in the paper "The Right to Privacy" note that "…the scope of these legal rights broadened; and now the right to life has come to mean the right to enjoy life, the right to be let alone; the right to liberty secures the exercise of extensive civil privileges…" (Yeh, 2017: p. 9). The right to privacy was transposed into each analyzed country by their constitutional law, with the exception of the United Kingdom that has no written constitution. In Netherlands and Romania the constitutional laws include clearly provisions related to the right to privacy. In United Kingdom and France, the right to privacy is covered by other legislations such as: Human Rights in United Kingdom and Code Civil in France. In Germany and Italy the right to privacy is interpreted by courts based on other constitutional rights.

The new data protection regulation, GDPR, in articles 13 and 14 it gives for individuals the right to be informed. This right provides to individuals transparency related to "privacy information" such as: the purpose of processing, who used the data, period of retention and who it will be shared with. The table below contains the information that should be provided by collectors of personal data on individuals according with the source from which were obtain.

Table 1. *Information that should be provided to comply with the right to be informed*

Information that must be provided to individuals	Collected from individuals	Obtained from other sources
Name and contact details of organization, representative and officer	✓	✓
The purposes of the processing	✓	✓
The lawful basis for the processing	✓	✓
The legitimate interests for the processing	✓	✓
The categories of personal data obtained	✓	✓
The recipients or categories of recipients of the personal data	✓	✓
The details of transfers of the personal data to any third countries or international organizations	✓	✓
The rights available to individuals in respect of the processing	✓	✓
The right to withdraw consent	✓	✓
The right to lodge a complaint with a supervisory authority	✓	✓
The source of the personal data	✓	✓
The details of whether individuals are under a statutory or contractual obligation to provide the personal data	✓	
The details of the existence of automated decision-making, including profiling	✓	✓

Source: adapted from ICO, 2018: p. 54.

2. Laws and regulations implementation

EU member states had a legal obligation to implement EU directive 95/46/EC in national law. The legal deadline to transpose the Directive 95/46/EC into national law for each member country of the European Union was in 1998, in three years after the directive adoption. Table 2 presents the years in which Directive 95/46 / EC was enforced and the years in which the most important updates were made for each of the six countries.

Table 2. *Directive 95/46/EC implementation*

Country	Implementation year	Updates year
United Kingdom	1998	2000
Germany	2001	2003, 2009
Netherlands	2001	2012, 2016
France	2004	2011
Italy	1996	2003
Romania	2001	2004

Source: adapted from Custers et al., 2018: p. 7.

Of the six countries analyzed, four countries: Germany, Netherlands, France and Romania did not meet the implementation deadline. Nevertheless, after implementation, many countries have revised their data protection regulatory frameworks with the goal to provide more protection for privacy and personal data by implementing additional provisions.

Countries like Netherlands, Germany or France have made important updates to their data protection legislation as: in Netherlands the laws regarding the breach notification, in Germany updates to data protection audits and in France particular provisions for data related to children and health care.

3. Data protection authorities

The application of the data protection regulatory frameworks in all six countries is supervised by data protection authority (DPA) for each state. The table below presents the annual budgets and the number of employees of the data protection authority for each countries analyzed.

Table 3. *Annual budget and number of employees of the DPAs*

Country	GDP (nominal) millions (euro)	Number of inhabitants (millions)	DPAs budget millions (euro)	Number of employees DPAs
United Kingdom (2016)	2,395,801	65.8	26.5	442
Germany (2016)	3,132,670	82,3	23	110
Netherlands (2015)	683,457	16.9	8.1	73
France (2016)	2,228,857	65.2	19.0	192
Italy (2015)	1,652,152	59.5	19.2	121
Romania (2015)	160,314	19.8	0.7	41

Source: adapted from Custers et al., 2018: p. 8.

The table above reveals that the annual budgets and number of employees of each data protection authority differ significantly. Based on the relation between the DPAs budgets and nominal gross domestic product (nominal GDP) can be concluded that: Italy has the highest DPA budget, United Kingdom, Germany, Netherlands and France have similar budgets and Romania has the lowest budget. The relation between number of employees for each DPA countries and the available budget shows that: in Germany, Netherlands and France DPAs budget are in conformity with the available budget, in Italy the DPA budget is highest compared to the available budget and in United Kingdom and Romania there are the most hired employees in accordance with the DPAs available budget. The relation between the number of DPA employees and the number of inhabitants of each countries indicates that the United Kingdom and Netherlands have the most employees. DPAs have the power to impose fines for data protection laws violations for example may impose sanctions on companies according to their annual turnover. According to the data published by company Baker & McKenzie in 2016, the maximum sanction is applied in France, 3 million euro, Netherlands 820,000 euro, and United Kingdom 500,000 pounds, Germany and Italy 300,000 euro and the minimum fine is in Romania 22,000 euro. The penalties under the new data protection framework, GDPR, for all the European countries can reach up to 4% of annual global turnover or 20 million euro.

4. Privacy officers

With the exception of Germany in which the companies with more than ten employees should have privacy officers, in many countries the compulsory employment of a privacy officers it is not yet mandatory. Starting with May 2018, when GDPR will come into force,

one of the requirements to be in compliance with article 37 of the General Data Protection Regulation is to have a data protection officer (DPO) for "all public authorities and bodies (irrespective of what data they process), and for other organisations that – as a core activity – monitor individuals systematically and on a large scale, or that process special categories of personal data on a large scale" (European Commission, 2016: p. 4). The role of the DPO is to monitor the internal compliance, advice and inform the company board on the data protection obligations, to provide consultancy in Data Protection Impact Assessments (DPIAs) process and to be contact person for supervisory authority and the data subjects. A study made by the International Association of Privacy Professionals in 2016 shows that to be in conformity with GDPR framework are required 28,000 DPOs in Europe and America, and 75,000 worldwide. Taking into account the pre-existing requirements from Germany related to privacy officers, many largest companies have recruited experts from this country to fulfil the DPO requirements.

5. Data protection impact assessments

In any of the analyzed countries the Data Protection Impact Assessments are not yet compulsory. In France for data controllers, there is a legal requirement to perform the risk mapping process regarding the personal data instead, in Netherlands, only the central government has the obligation to carry out Data Protection Impact Assessments (DPIAs) for legislative proposals that involve personal data processing. The data protection authorities from countries like United Kingdom or Italy have issued guidelines which contain models and performance standards to accomplish DPIAs process. Table 4 summarizes the fulfillment of DPIAs process for analyzed countries.

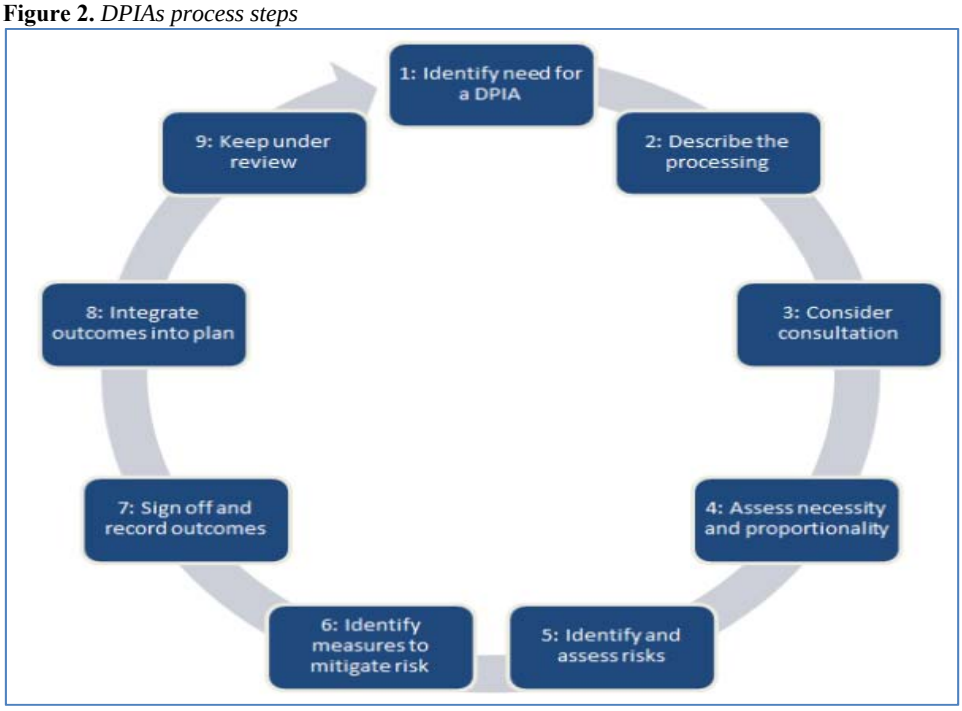
Table 4. *DPAs overview process*

Country	Obligation	DPA guidance
United Kingdom	Yes (DPA policy for government)	Yes
Germany	No	No
Netherlands	Yes (for legislative proposals)	No
France	Yes (legal obligation for data controllers)	Yes
Italy	Yes (DPA policy)	Yes
Romania	No	No

Source: adapted from Custers et al., 2018: p. 6.

Article 35 of the General Data Protection Regulation introduces the mandatory requirement to perform a data protection assessments (DPIAs), in the situations where there can be present a potentially high risks regarding to the data subject's right. DPIAs can be considered an important instrument that helps not only to manage the high risks, but also can be used to demonstrate the compliance with the GDRP requirements by the measures that have been taken to be compliant with this framework. Figure 2 presents an overview of the steps that should be included in the planning and development of the DPIAs process.

Figure 2. *DPIAs process steps*



Source: ICO, 2018: p. 105.

Conclusions

The comparative analysis under the current data protection framework, Directive 95/46/EC across six European countries reveals that: Germany is frontrunner in most aspects of data protection as: the largest number of privacy officers, the largest DPA budget, data protection audits. Countries such as: United Kingdom, Netherland and France satisfy or exceed the average in terms of data protection by breach notification laws in the Netherland, data privacy by design methods in United Kingdom, additional provisions for data related to children and health care in France, guidelines to perform DPIAs process in all this states. Italy is below average with respect to data protection and Romania is lagging in most aspects of data protection. The analysis shows that although the protection of personal data is harmonized within the EU by Directive 95/46/EC and will be further harmonized by the General Data Protection Regulation (GDPR) in 2018, there are significant differences in the ways in which EU member states implemented the protection of privacy and personal data in national laws, policies, and practices.

Considering the complexity of the data protection landscape of the new regime, GDPR will have a significant impact in terms of cost and effort in the coming years. The companies most affected by these new changes in the data protection are those whose daily business are based on the processing of personal data. The GDPR impact will be directly proportional to the quantity of personal data that it processes.

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The European Union: A global actor in the 21st century

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Abstract. *Over time, the role of the EU has often been underestimated, as theoreticians had divergent views on defining the global actor status. The purpose of this paper is to determine if the European Union is a global actor and particularly to reveal if it has a dominant role in the economic field. In this regard, the study encompasses different views concerning the status of the European Union in the international relations, emphasizing its economic dimension. Taking into consideration the critical analysis of the literature on this topic and the relevant data, the paper suggests that the European Union imposed itself as a global economic actor in the 21st century.*

Keywords: European Union, global actor, international relations, economic power, trade.

JEL Classification: F15, F50.

Introduction

The Treaty establishing the European Economic Community, concluded in 1957, laid the foundations for a unique entity that challenged the contemporary scientific thinking and knowledge. In this context, theoreticians, academics and policy makers examined the nature and the prospects of the entity that was to become the European Union (EU). In its early stages, the group was defined by Charles de Gaulle as a "Europe of the Nations", evolving in the 21st century towards the concept of "European federation" (Fischer). Morgan (2005) considered the Union a "super state", while Manners (2001) called it a "normative power". Recently, Moravcsik (2017) argued that the EU is a "real superpower", which is likely to maintain this status in the following decades. In the analyst's view, the EU is rivaling or overtaking other major actors, such as the US and China, having the "ability to project a full spectrum of global military, economic, and soft power".

Defining the nature of the European Union

The analysis of the relevant literature leads us to the conclusion that the role of the EU has often been omitted or underestimated, as theoreticians had divergent views on defining the global actor status. On the one hand, the minor importance granted in the past to the European group reflects the influence of the traditional theories, which focused on state entities. On the other hand, analysts frequently studied limited foreign activities, considered to be in the high politics sphere, which included mainly the actions of foreign ministries, diplomats and military. The state-focused perspective and the emphasize of the EU's less effective policies, led some experts to the conclusion that the European bloc cannot be considered an actor (Hill, 1993). Moreover, with the emergence of the liberal doctrine, the Union was not given a well-defined status, being analyzed in the same context with other new actors, such as multinational companies and transnational groups of interests.

Since the 1990s, some experts have tried to answer the question of whether the EU is a presence or an actor on the global scene, highlighting the unique characteristics of this regional group. David Allen and Michael Smith (1990) developed the notion of "presence", in an attempt to highlight the tangible and intangible dimensions of the Western Europe in the international arena. In contrast, Bretherton and Vogler (1999) have defined the EU as an international actor, referring to its autonomy, ability and legitimacy. Thus, the two experts have made an analogy between actors in the field of international relations and the actors of a theater play. In Tonra's vision (2009: p. 9), the two concepts (presence and actor) are used to make a connection between the policies adopted by the EU and their impact on the external environment. In this context, it becomes relevant the Union's capacity to shape events abroad, both voluntarily and in response to requests from third entities.

According to Bretherton and Vogler (1999), the notion of actor is closely related to the concept of actorness. In this context, the classic or realistic approach emphasized the role of the state and the international political system. In this landscape, other participants, such as intergovernmental organizations or multinational companies, were considered subordinated to state entities. As a result, realism have analyzed the differences in power existing between states, emphasizing the strong players. Since the 1970s, representatives

of pluralist theory have identified other structures, arguing that non-state actors were not always subordinated to states. Consequently, other concepts such "mixed actor" (Young, 1972) and "global political system" (McGrew and Lewis, 1992) were brought to the forefront. However, Bretherton and Vogler (1999) asserted that these approaches have failed to properly define the nature of the EU. In this context, the European bloc has often been considered an international organization, thus being omitting its multi-dimensional character (Keohane and Nye, 1973). Other analysts believed the EU comprises several entities, and the actor could be attributed to the European Commission (Hocking and Smith, 1990). This vision encompasses the current governance and legal competences of the supranational institutions, with the European Commission acting on behalf of the Community and subsequently the EU.

Reflections on the economic dimension of the European Union

In the 21st century, the EU is perceived as an influential global economic actor, mainly due to the collective economic power its member states. Despite the major role currently held, the past decades have been characterized by the belief that the EU is just a "regional integration experiment among a relatively small number of participating countries" (Sapir, 2007: p. viii). Gradually, theorists have noticed the evolution of the EU from the status of an experiment to that of a pole of power. In Damro's vision (2011: p. 6), emphasizing the economic nature of EU identity it is not completely different from previous conceptions that prioritized the economic dimension of strong actors. In this context, Galtung (1973) highlighted the concept of "capitalist superpower", while Rosecrance (1986) outlined the phrase of "commercial state".

At present, the world's states are increasingly using non-military means to manage global challenges, which range from territorial issues and economic interdependences to development, human rights and environmental degradation. Among non-military instruments, economic power has a defining role for the EU. Moravcsik (2017) noted that the EU is projecting its spectrum of economic power around the world, based on the size of the single market. At the same time, according to the analyst, the EU strengthens its economic dimension with the accession of new member states, a process that can be considered "the most cost-effective political tool of influence". At the same time, the group exploits its economic strength by concluding bilateral agreements, under the auspices of the European Neighbourhood Policy and by playing an active role at the multilateral level within the World Trade Organization (WTO).

The single market is currently perceived as an essential economic engine, the EU accounting about 22% of global GDP and 16% of trade flows (2016). The EU is the main source and recipient of foreign direct investment and also the most important actor in development aid. In the view of Allen and Smith (1990), the EU is an "economic integration effort", the single market being the foundation of its material existence and the most visible feature of its presence in the international system. In turn, Damro (2011) highlighted the concept of European market power, which brings to the forefront „three interrelated and mutually reinforcing features: material existence, institutional features and interest contestation".

Focusing on the absolute and relative size of the internal market, some analysts have concluded that the EU is a pole of economic power. From the perspective of Drezner (2007: pp. 32-33), the size of the market can influence the capacity of global actors to outsource their internal regulations. Firstly, the size of the market is closely correlated with the material incentives received by governments in order to take decisions regarding the coordination of regulatory standards. In this context, a sufficiently large domestic market significantly reduces government incentives to change the national regulatory standards. This effect can be induced by economic constraints, given that major powers "can use the threat of complete or partial market closure to force recalcitrant states into switching their regulatory standards". Secondly, the size of the market may convince other actors to adjust their preferences so that they match Community standards. Given the significant size of the single market, Drezner (2007: p. 8) concluded that the EU is capable of propagating internal regulations to other economies.

The EU's material existence is complemented by its institutional features. The EU is considered a "regulating state", which develop and improves governance based on well-defined norms and regulations (Majone, 1997). From this perspective, the EU is able to use regulations to promote positive or negative integration. As a result, the regional group creates a wide range of economic and social rules that can liberalize or restrict the activity of the market and have significant external effects. At the same time, the identity of the EU also includes its institutional qualities, which depend on its ability to outsource these regulations. According to Bach and Newman (2007), high levels of regulatory expertise, consistency and sanction authority have a positive influence on the ability to outsource regulations. On the whole, Damro (2010: pp. 9-10) concludes that internal rules play a key role in defining the EU's market power. Also, Moravcsik (2017) noted that the EU manages to dominate the regulatory sphere, convincing its trading partners to adopt the stricter European standards. The unilateral influence exerted by the EU on the global level through the imposition and export of legal institutions and standards was named by Bradford (2012) "the Brussels effect".

In contrast, other theorists have believed that the EU cannot be considered a financial and economic actor, as it was not involved in shaping the global financial system. In this respect, Gros (2002) pointed out that in order to gain a dominant role in financial sector along with the US, the EU should create a mechanism to mobilize the large resources of the member states. Until now, the European bloc has not been involved in managing the financial crisis in third countries, mainly because it does not have a supranational fiscal policy. At the same time, the analyst mentioned that EU member states protect their sovereignty in financial affairs, so coordinating relationships with international institutions, such as the International Monetary Fund, has proved to be difficult.

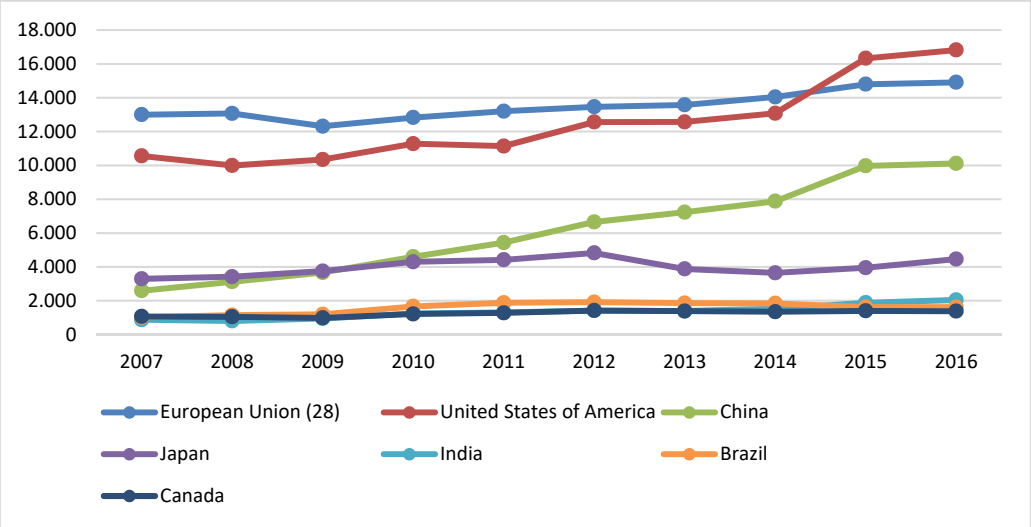
The European Union – a global economic actor?

The status of global economic actor can be highlighted by comparing the GDP recorded by the EU with the values obtained by its main rivals. In this respect, Figure 1 points out that between 2007 and 2016 the aggregate GDP of the member states had an upward trend, with the exception of 2009, when the effects of the economic and financial crisis

significantly propagated worldwide. However, it is noteworthy that this development was relatively modest as the EU's total GDP increased by 15% over the 10 years under review. In 2016, this indicator reached € 14,908.8 billion, with the EU accounting 21.7% of the global GDP. Figure 1 reveals that the US imposed itself as the main economic power in 2016, with a share of 24.6% in the global output of goods and services destined for final consumption. Over the period 2007 - 2016, the GDP of the US grew by about 29%, from € 10,558.7 billion to € 16,820.8 billion.

China ranked third in terms of GDP in 2016, with a sharp increase over the 10 years under review. In 2007, the indicator was € 2,590.6 billion, rising 3.15 times by 2016, when an amount of € 10,114.7 billion was reached. In the ranking follows Japan, which recorded a GDP of € 4,461.7 billion in 2016. Figure 1 shows that India has seen a significant increase in GDP over the 10-year period, namely 88%, from € 875.9 billion to € 2,043.9 billion. Last but not least, Brazil and Canada have imposed as influential economic powers, the analyzed indicator amounting € 1,622.1 billion and respectively € 1,381 billion in 2016. Overall, it can be said that the EU is a major economic actor given the aggregate GDP value in 2016, which placed it second, after the US. However, it is noteworthy that until 2014, the EU held the leading position, surpassing the US and being placed at a significant distance from China. Taking into consideration the global and regional challenges, the European policymakers will have to outline a strategy that maximizes the value of this indicator so that the EU can claim its leadership position.

Figure 1. *The evolution of GDP between 2007-2016 (billion EUR)*

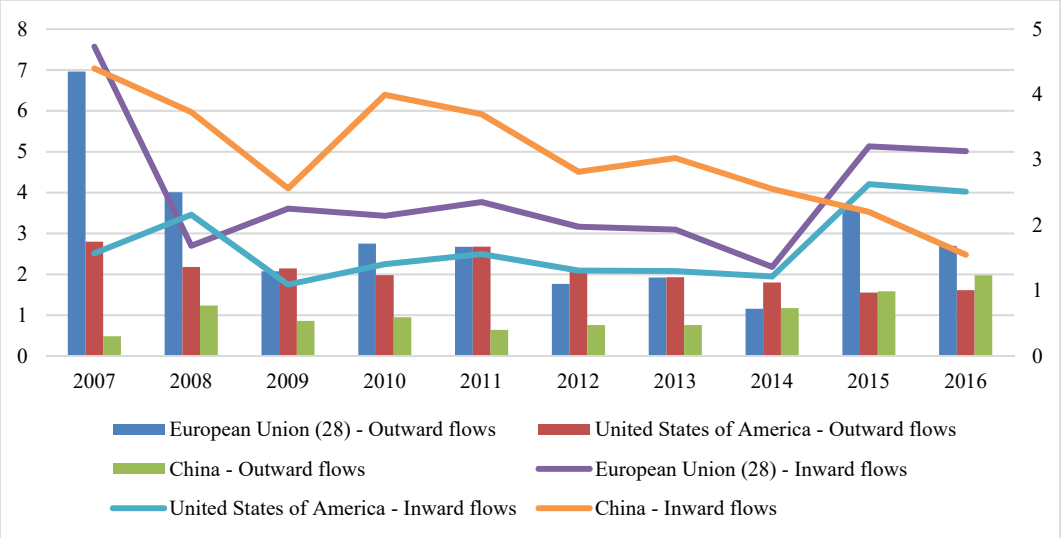


Source: Author's processing based on data provided by World Bank.

At the same time, the status of global economic actor of the EU can be highlighted by analyzing the investment flows. Although they had an asymmetric trend during the period 2007 -2016, the outward foreign direct investment accounted 2.7% of the EU's GDP in 2016. Consequently, the EU was the main source of foreign direct investment in 2016, surpassing the US (1.61% of GDP) and China (1.97% of GDP). Apart from that, the EU also became the main recipient of foreign direct investment in 2016, which accounted

3.13% of GDP, while its' main rivals, the US and China, amounted 2.51% and respectively 1.55%. Figure 2 reveals that over the analyzed period, the inflows of foreign direct investment in the EU had an asymmetric trend, so that although they represented 4.73% of GDP in 2007, they reached a minimum of 1.36% of GDP in 2014. Referring to the US, foreign direct investment inflows accounted 1.57% of GDP at the beginning of the period, rising by almost one percentage point by the end of 2016 (2.51% of GDP). Moreover, the Figure 2 highlights that foreign direct investment in China had an irregular trajectory over the 2007-2010 period, similar to the trend observed at the EU level. Consequently, foreign investment by third countries in China amounted 4.4% of GDP in 2007, while in 2016 it was reached a significantly lower value of 1.55% of GDP. In conclusion, the EU has established itself as a major actor in the economic sphere, representing the most important supplier and recipient of foreign direct investment.

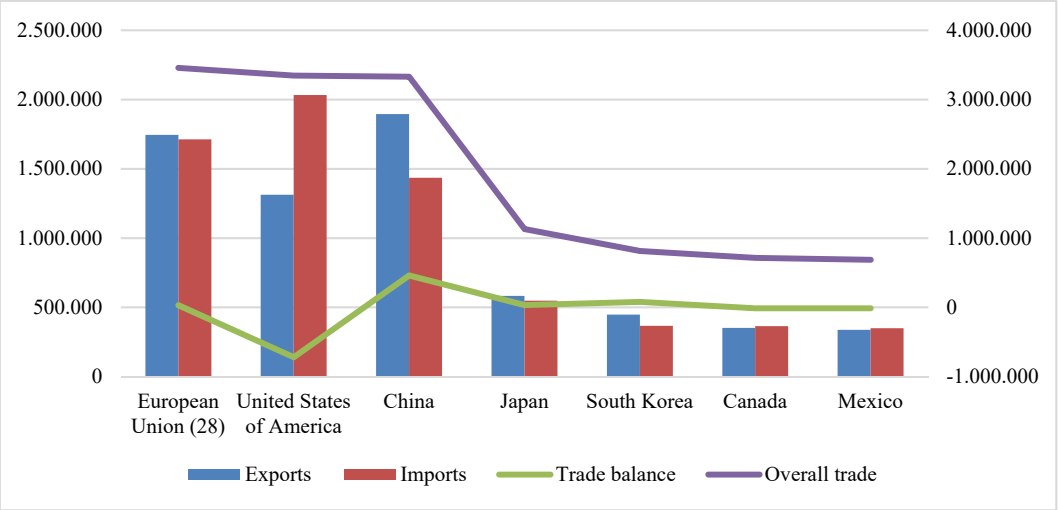
Figure 2. *Foreign direct investment flows (outward and inward) between 2007-2016 (% GDP)*



Source: Author's processing based on data provided by OECD.

Statistical data provided by Eurostat shows that the EU has imposed itself as the world's most influential trade pole of power in 2016. The total trade in goods of the EU increased by 28% during the 10 years, from € 2,684,821.8 million (2007) to € 3,457,114.1 million (2016), the group having a trade surplus starting with 2013. It is worth noting that in 2016, the European bloc exports reached € 1,744,558.1 million, while imports amounted € 1,712,556 million. China has managed to double the absolute value of the foreign trade over the same period, from € 1,587,869.5 million (2007) to € 3,329,621.3 million (2016). In 2016, China's exports reached € 1,895,055.7 million, while imports amounted to € 1,434,565.6 million. In turn, the US recorded an increase in the value of foreign trade by 44%, from € 2,320,072.2 million (2007) to € 3,345,223.6 million (2016). In this respect, statistical data reveals that exports amounted € 1,312,826 million and imports € 2,032,397.6 million in 2016. The most important players in the trading arena were followed by Japan (€ 1,130,957.1 million), South Korea (€ 814,526.7 million), Canada (€ 715,437.5 million) and Mexico (€ 687,458 million).

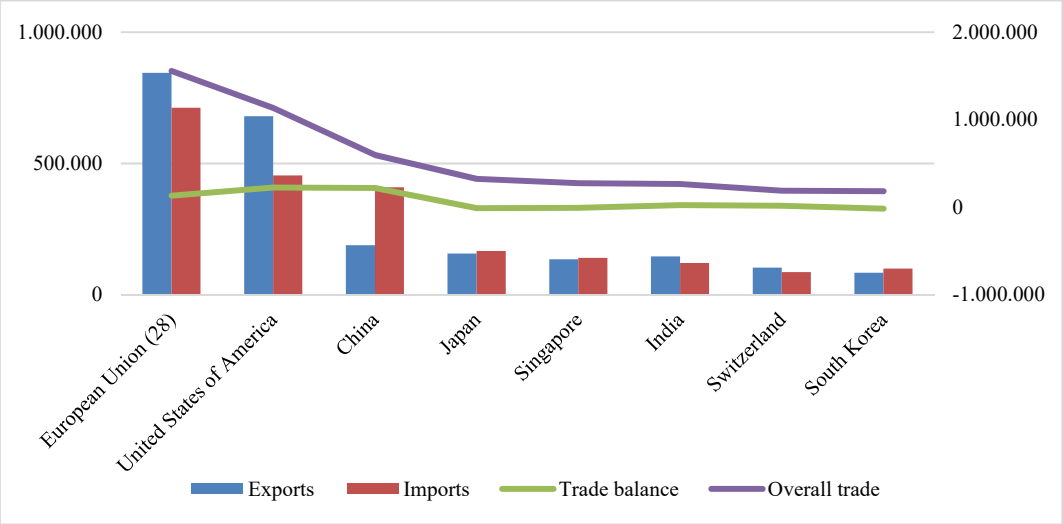
Figure 3. *Exports, imports, trade balance and total flows of goods in 2016 (million EUR)*



Source: Author's processing based on data provided by Eurostat.

Total EU services' flows amounted € 1,556,734.9 million in 2016, the regional bloc being the most important trade actor. Figure 4 reveals that the exports of the EU reached a value of € 844,894.1 million, while imports amounted € 711,840.8 million, the European bloc obtaining a trade surplus in services.

Figure 4. *Exports, imports, trade balance and total flows of services in 2016 (million EUR)*



Source: Author's processing based on data provided by Trade Map.

According to Trade Map, the main trading partners of the EU in 2016 were the US, Switzerland, China, Japan and Norway, both in terms of service exports and imports. In view of these issues, it can be argued that the EU's leading position in the trade of services contributes to its status of powerful economic actor. The US ranks second as far as trade in services is concerned, with flows amounting € 1,134,391.2 million, being

followed by China, which reached the value of € 597,708.3 million. The G3 states are followed by Japan (€ 323,956 million), Singapore (€ 275,788 million), India (€ 267,052.1 million), Switzerland (€ 189,353.9 million) and South Korea (€ 183,662 million). It is noteworthy that the EU, USA and China are the most important trading actors both in goods and in services flows.

Mucha-Leszko (2013: pp. 435-436) predicts that the US and Europe will remain the main poles of power in the following decades taking into consideration their high shares in the global GDP, trade and investment, but also due to the influence of domestic multinational companies. However, the analyst notes that the question that persists is whether multilateralism and multipolarity of the world economy will be balanced in an appropriate way by developing global governance. Mucha-Leszko and Twarowska (2010: p. 40) believe that in the future, the position of the European continent in the global architecture will depend on the evolution of the EU, the economic efficiency of this group of states, and the degree of centralization of economic policies and decision-making process. At the same time, the progress made in the federalization process is an important condition for strengthening the position of the EU as a global economic center. In the view of Mucha-Leszko and Twarowska, removing the remaining persistent obstacles within the single market will significant contribute to the preservation of the global economic actor status. Analysts believe that the barriers that still obstruct the free competition in some areas of activity minimize the benefits of economic integration, notably the efficiency of the common market as a lever to enhance global competitive advantage.

According to an inter-institutional report (Global trends to 2010: Can the EU meet the challenges ahead?: pp. 25, 65), the EU will continue to exert a significant global influence as an economic power. Thus, the EU represents a single facet of Europe, but a crucial one, both a source of economic prosperity and a model of rule-based integration. Its economic success will largely depend on the dynamism of the internal market, the strengthening of the economic and monetary union and the cohesion of the middle class. The same study also highlights that G3, comprising the EU, the US and China, will continue to dominate the economic sphere, accounting about 55% of the global GDP in 2030. In the following decade, there will be changes in terms of the relative position of the three powers so that China's GDP is expected to exceed that of the EU and the US.

Conclusion

Overall, the analysis of the relevant literature has leaded us to the conclusion that the role of the EU has often been omitted or underestimated, as experts had different perspectives on the concept of global actor. On the one hand, some theoreticians considered that EU was not similar to a state, but more to a regional organization. On the other hand, some analysts have emphasized the postmodern nature of the EU, referring to the supranational characteristics and to the transfer of sovereignty of the member states to the European institutions. Despite these inconsistent views, the EU is nowadays recognized as a major actor, particularly in the economic field. In 2016, the

European bloc imposed itself as the second most influential economic power worldwide taking into consideration the value of the GDP, also having a leading role in the field of trade and investments flows.

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Entrepreneurial communication and its importance in supporting online businesses

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Abstract. *Today the business environment is facing new challenges. The latter generates a series of trends in business orientation in general and online, in particular. Therefore, there is a need for a new way to explore business opportunities through entrepreneurial communication.*
Entrepreneurial communication is the central subject of our analysis. In this context, we will try to argue why this is needed, especially at the level of online businesses where social media plays a decisive role.
Last but not least, we want to emphasize the fact that in the modern business, ensuring the balance between the client's needs and the needs of the company, involves the activation and permanent development of the communication component.

Keywords: communication, entrepreneurial communication, social-media, online marketing.

JEL Classification: A1, L2, M3.

Introduction

Our research on entrepreneurial communication is called to capture the extremely present and complex issue of the subject. The study debuts with an argumentative analysis on the need to activate the communication component in modern business, including its potential for development and use as a working tool. At the same time, we focus on identifying and determining the size and characteristics of this type of communication and its role in the online environment. The research approaches originate in highlighting the current state of knowledge, in a field where the relevant specialist works discuss the managerial component and give secondary importance to the communicational dimension. Based on these considerations, we want to bring to the forefront of the debate, the organic link between the entrepreneurial power based on expertise and open communication, dynamics, in and towards the categories of audiences targeted online.

Communication and entrepreneurship

Entrepreneurial communication is a new way of exploring opportunities appeared in the business environment. The relationship between the entrepreneur and target audiences aimed by it gets new meanings through the activation of the communication component. Entrepreneurial activity involves innovation but also risks. It results from the entrepreneur's courage to turn an idea into a business concept, seen from a new perspective, based on proactive action.

At the same time, the entrepreneurial process, according to the specialty literature, includes a specific stage: identification/evaluation of opportunities; obtaining the necessary resources; developing the business plan; setting up the company; management assurance (Hisrich and Peters, 2002).

Identifying and evaluating opportunities is the stage where the entrepreneur can explore and identify the benefits offered by the market where his attention is focused at the moment, in order to create the necessary accessibility.

In the next stage, highlighted by obtaining the necessary resources for the good business, the entrepreneur follows, in a concrete way, the combination of resources attracted from proper sources and borrowed ones, with direct reference to the costs of each source used.

The process continues with the elaboration of the business plan – the most commonly used entrepreneurial tool, which will help to complete the necessary steps to set up the company, whose evolution will also influence the started entrepreneurial activity. The circularity of the entrepreneurial process is built with the last step: ensuring the management. It is about highlighting the entrepreneurial style of leadership, whose importance will then put its mark on the business.

The importance of developing the entrepreneurial segment and business communication, in particular, is becoming a priority in the current economy. Therefore, we believe that the entrepreneur and his work must be analyzed in a double perspective: managerial and communicational.

The communicational paradigm brings today the "plus of value" so necessary to interpret modern managerial values and norms. Continuing the analysis, we observe that motivation, vision and leadership, as well as basic entrepreneurial skills, are gaining strength as they relate to the social context. In view of this last aspect, we observe a number of concerns in the field.

According to Morris and Lewis (1991), entrepreneurship tends to become an important factor in ensuring quality of life. (Morris and Lewis, 1991)

A pertinent analysis in their vision, of the entrepreneurial phenomenon, implies its reporting to the quality of social life. Practically, we are witnessing the enrichment of the procedural perspective through which the entrepreneurship was analyzed by Hisrich and Peters (1989).

Discussing the above, Zimmerman (2009) concludes that the importance of entrepreneurship in terms of economic growth and social development is essential, well defined and identified. The problem that emerges is, in his opinion, that of establishing the entrepreneurship connections at social and sustainable level.

In this sense, Zimmerman launches the hypothesis that research in the field can be improved by studying entrepreneurship starting from a quadruple conceptual framework: procedural, typological, behavioral and environmental.

In our opinion, the addition to the conceptual framework of analysis and the communication dimension will open up new research horizons in the field. The latter can be valued only by approaching entrepreneurial communication from a triple perspective: integrative, offensive and strategic.

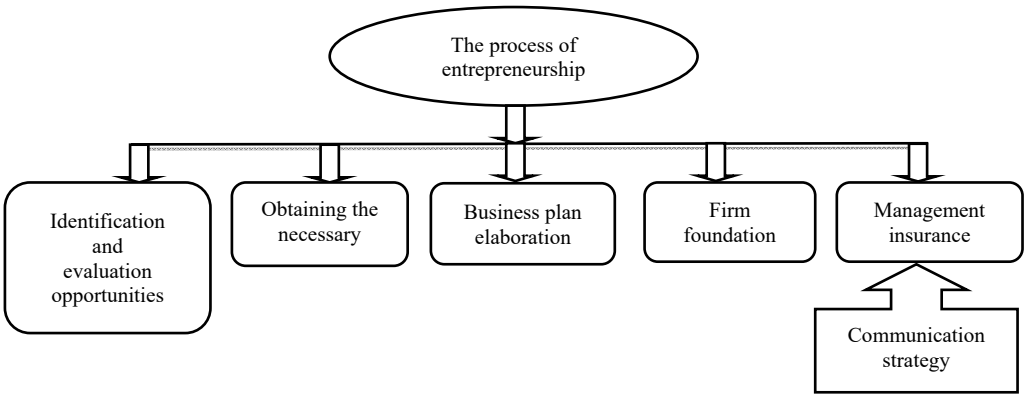
The integrative perspective of entrepreneurial communication permanently develops, manages and improves the framework of the appropriate manifestation of stellar interdepartmental communication. The importance of its activation is essential for creating the conditions for the subsequent manifestation of effective dialogue between the firm and its external environment.

The offensive approach helps to boost the communication relationship between the company and its clients, creating the imaginative, visionary framework needed to ensure consistency with societal values and norms. The strategic vision places practically, in terms of goals, tactics and logical steps, everything that involves the operationalization and efficiency of business in general and of organizational communication, in particular. Regardless from what perspective we look at entrepreneurial communication, these

aspects highlighted above lead us to the conclusion that business success depends largely on their use in close relationship.

Based on the previous argument, we believe that the entrepreneurial process can be adjusted. Thus we consider it is necessary to instrumentalize the communication from the strategic perspective and its emphasis in ensuring the development of the company's management (Figure 1).

Figure 1. *Instrumentalization of communication within the entrepreneurial process*



Source: Adaptation after Hisrich, R.D. and Peters, M., *Entrepreneurship,* McGraw-Hill Companies Inc. 2002.

The entrepreneurial process provides the bridge between organizational communication and entrepreneurial thinking. Only in this context can entrepreneurial communication ensure the balance between the potential customer needs and the need of the company to function efficiently, on a low cost basis.

Analysis of the impact of entrepreneurial communication on online businesses

Enhancing online communication becomes today an essential condition for ensuring business success. We believe that the online environment plays the role of a "communicational referent" in the relationship between firms and audiences. Significant are the ideas presented in their study by Fisher and Reuber (2014). Practically, it is an analysis of the manner how entrepreneurial communication helps differentiate firms in the market and increase public confidence in promoted products/services. According to them, firms create a truly "multidimensional communication flow" that will have the ultimate goal, we say, of obtaining the much-needed feedback.

The study of entrepreneurial communication impact on online businesses has long been in our area of interest. Our research starts from the comparative analysis of two websites in Romania, whose purpose is to support the development of small online businesses in the field of Romanian handmade. These are the websites: Breslo.ro and Crafty.ro. The choice

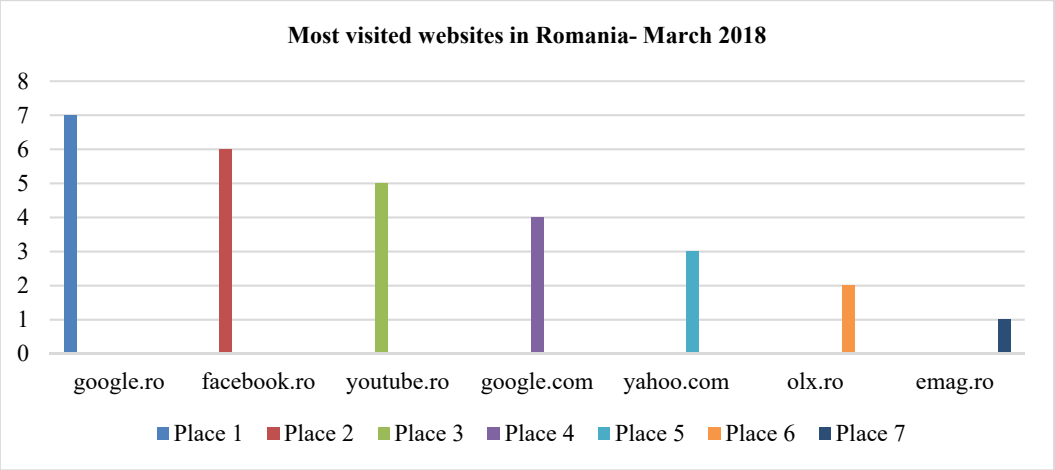
of these two websites was determined by the fact that we wanted to analyze the behavior of handmade products consumers.

From the beginning, we want to emphasize that Breslo.ro is the leader in this market. Since its launch in 2008, the Breslo website has been built and developed around the original artistic ideas launched by the Romanian handmade creators. The promotion of the Romanian artistic spirit in the online environment harmoniously blends with the image of the website. At the same time, we are actually witnessing the development of a particular entrepreneurial communication. It is based on ideas, symbols, creative concepts that develop original projects in the field of Romanian design. "Breslo.ro is the meeting point of all those who want to sell online or buy unique, handcrafted products. Since 2008, Breslo.ro has gathered more than 250,000 original creations and art and hobby artworks, winning its place as the Mecca of the local handmade (...) the largest Creative Marketplace in Romania – the place where anyone can buy or sells handmade products or art and hobby materials" as it appears through its statement of intent. (https://www.facebook.com/breslo/)

Launched in 2010, the Crafty.ro website "is a handmade marketplace (...) where you interact with people who have the same passion as you – the handmade". It is positioned as a challenger in the online profile space. (http://www.crafty.ro/), with over 9,000 followers, giving as example its reporting to Facebook (https://www.facebook.com/crafty.ro/)

Breslo.ro, as an online leader in the handmade creator community, with more than 65,000 Facebook followers (https://www.facebook.com/breslo/) holds the 1101 position in Romania, in the top of the websites accessed of potential customers who want to trade online. (https://www.similarweb.com). (Figure 2)

Figure 2. *Top websites accessed in Romania (March 2018)*

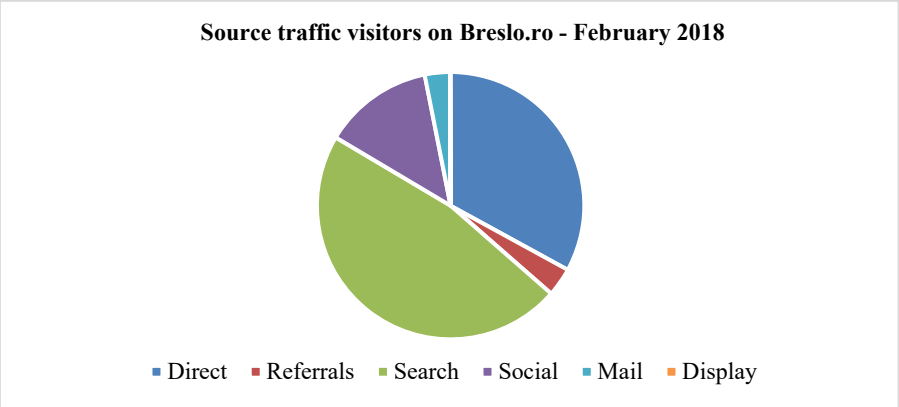


Source: Authors' processing according to the information obtained from https://www.similarweb.com

Traffic on the Breslo.ro website is increasing, with a total of more than 300,000 monthly visitors, with the duration of interactions with the stores hosted on the platforms of 5:48 min/visit and a Bounce Rate of 40.7%. The behavior of the handmade products consumer is influenced by a set of factors: temporal, financial, and emotional, by design and originality. At the same time, it is found that attracting as many visitors as possible to the page will also be determined by the activation of entrepreneurial communication, whose persuasive component is particularly important. Promotional campaigns launched by Breslo, through which the participating stores are being promoted, take place around laic or religious holidays. In addition to these events, thematic contests are being launched by the creators working on the platform, in order to share a set of their ideas with the community.

Visitor traffic sources on Breslo.ro are in proportion of over 40% resulted from accessing the Google and Yahoo search engines. In the second place, in proportion of over 30%, direct accessing of the Breslo.ro website brings a significant number of visitors and finally clients. This segment has the most customers. The fact that they access the platform directly is extremely valuable information. It is clear that this is the segment accustomed in a fairly high proportion with the structure and characteristics of the products marketed here. Of the visitors to the website that fit in this segment, the vast majority, we believe, are the customers who have managed to be loyal to the shops that carry out their activity here (Chart 1).

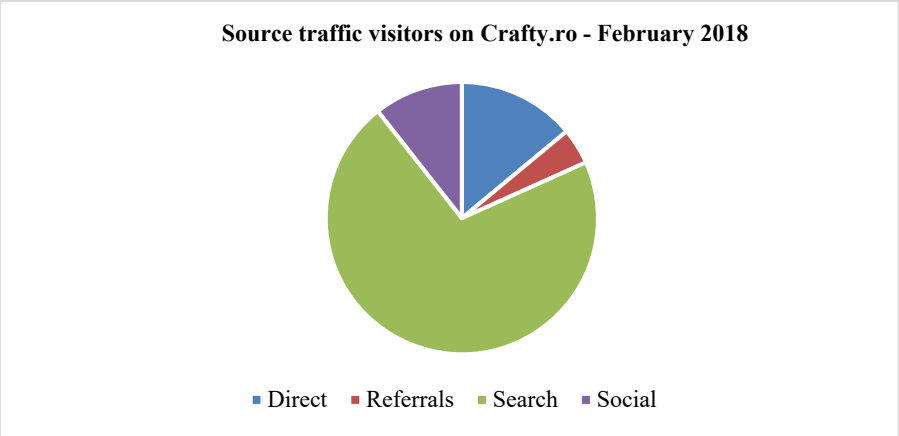
Chart 1. *Source traffic visitors on Breslo.ro*



Source: Authors' processing according to the information obtained from https://www.similarweb.com

Compared with Breslo.ro, the Crafty.ro website is at the beginning of the road. Therefore, the number of hits is significantly lower than the one attracted by Breslo.ro. Still, we see a series of similarities. Top of traffic sources are search engine hits, preceded by direct access, social media, references, etc. (Chart 2).

Chart 2. *Source traffic visitors on Crafty.ro*



Source: Authors' processing according to the information obtained from https://www.similarweb.com

Therefore, the source of the traffic, in the Google and Yahoo search engine segment, on Crafty.ro compared to Breslo.ro, is significantly higher because the website is in development and still has not managed to loyalty a significant percentage of the attracted customers, who would access the website directly. In this context, through direct access, Crafty.ro appears in the options of 13.93% of the visitors, compared to 32.98% as it is recorded at the Breslo.ro website. (https://www.similarweb.com)

Considering the above-mentioned aspects, we believe that it is necessary to streamline the entrepreneurial communication activity in order to support, through it, the businesses that work and develop online.

Conclusions

Entrepreneurial communication is gaining increased importance in the context where modern business environment is facing new challenges. Exploring new business opportunities, through entrepreneurial communication, requires us to analyze entrepreneurship from a dual perspective: valorizing and managerial. In this context, entrepreneurial communication plays the role of a binder, we think, and leads, ultimately, to insuring the balance that is so necessary to meet the needs of our clients, along with the ones of the modern firms.

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The selection of stocks using principal component analysis

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Abstract. *The purpose of this paper is to show how principal component analysis (PCA) can be used to construct the most efficient portfolios. Due to the large number of existing variables, it is difficult to perform statistical analysis of data, but PCA will help us in choosing the best performing shares. Through the PCA we will show the utility of this statistical method in the selection phase of the data. The main objective of this analysis is to identify the most important factors indicating the most profitable shares, so we have considered a number of five financial indicators, representative for the selected firms.*

Keywords: stock selection, principal component analysis, diversification, dimensionality reduction, variance.

JEL Classification: C38.

1. Introduction

Effective portfolio management could help investors generate additional financial resources, protect their portfolios. The construction of a portfolio of shares traded on a stock exchange must to follow certain steps such as selection criteria set by the investor, depending on his risk appetite and the expected profitability.

For this study we decided to select eleven representative companies for the US capital market, which are also found in the structure of S&P 500 and DJI benchmark stock market indices. After PCA application, we intend to analyze one of the investment ways that any investor can approach such as the market model.

A first criterion in the selection of shares was liquidity, so we analyzed the composition of the most important stock exchange indices for S.U.A. market. The field of activity of these companies was another criterion, which is why we wanted to have the greatest possible diversification and we chose actions from the following areas of activity: the banking sector, the energy sector, the food sector, the pharmaceutical sector, the trade, machinery, IT and the insurance sector.

Subsequently, by applying a statistical size reduction method, we will obtain a number of shares to be as the most performing ones, which they could be used to build optimal portfolios.

2. Literature review

Stancu et al. (2011) analysed modern methods of portfolio construction on the Romanian capital market. Comparing the results obtained by applying the two models to a portfolio: Sharpe and Markowitz, made up of three Bucharest Stock Exchange rated securities, the authors believe that Markowitz's model leads to the best results, optimizing the decision to choose titles from the point of view of the cost-benefit criterion.

Armeanu et al. (2010) approached the market model for 13 listed shares on the Bucharest Stock Exchange. After the application of the model, two shares (SNP and TLV) of those selected have a specific risk lower than the systematic risk. Applying the market model for the SNP share using the BET index shows its effectiveness in predicting expected returns. The study also highlighted certain limits for determining the α and β coefficients.

Dedu, Armeanu and Enciu (2009) used the principal components method to analyse the activity of Romanian insurance company, in order to determine the best branch of the company. They selected nine indicators for the insurance activity: net premium, total income, administrative expenses, acquiring expenses, net indemnification, number of employees, premium net reserve, net claims reserve and the financial result. They managed to create a hierarchy of the branches of an insurance company in relation with their financial powers.

Armeanu et al. (2012) have proposed in this paper to perform an Altman scoring function on a sample of sixty Romanian companies listed on the Bucharest Stock Exchange in

order to highlight their financial strength as well as their ability to meet with the obligations commitments. They took into account a number of seven economic and financial indicators representative of the activity of the companies: total assets, net turnover, operating result, net cash flow from operating activity, net profit and total liabilities. The authors have brought the fact that principal component analysis is a useful tool because it manages both informational synthesis and the elimination of informational redundancies.

Șerban, Ștefănescu and Ferrara (2011) constructed the efficient frontier for a portfolio made of three assets. They used principal components analysis to discover similarities between the assets listed on the Bucharest Stock Exchange. After the selection of assets it was present an approach to estimating risk using historical simulation method.

Ince and Trafalis (2007) analysed the relationship between stock price and technical indicators, by approaching two different methods. The first one is using principal component analysis to identify the most important indicators and the second approach is based on heuristic models.

Zahedi and Rounaghi (2015) assessed the predictability of prices on Tehran Stock Exchange through the application of artificial neural network models and principal component analysis method. They proved that the artificial neural networks model has superiority over its rivals and principal component analysis method can accurately predict stock price and identify the effective actors in stock price by using real values.

Șerban, Ștefănescu and Dedu (2011) proposed an original algorithm for portfolio optimization (selecting assets, risk estimation, portfolio optimization). The selection of assets was realized by applying principal components analysis in order to discover similarities between the stocks listed on the Bucharest Stock Exchange.

3. Data and methodology

For this study we decided to select eleven representative companies for the US capital market, which are also found in the structure of S&P 500 and DJI benchmark stock market indices. The data used for the financial indicators for selected companies was conducted for the period 2015 and the data source was Thomson Reuters Datastream.

We took into account some financial indicators, representative of the selected companies such as total assets (AT), total debt (DT), operating profit (EBIT), stock market capitalization (CB).

The principal component analysis (PCA) will help us in choosing the best performing shares, by reducing the original space to a smaller one.

The relationship between a share and the return of a market index outlines the concept of a market model.

$$R_i = \alpha_i + \beta_i x R_M + \varepsilon_i$$

Table 1. *Formulas used for analysis*

σ_M^2	σ_{iM}	β_i	$\sigma_{\varepsilon_i}^2$	ρ_{iM}	R_i^2
$\frac{\sum_{k=1}^{n}(R_{Mk} - R_M)^2}{n-1}$	$\frac{\sum_{k=1}^{n}(R_{Mk} - R_M)(R_{ik} - R_i)}{n-1}$	$\frac{\sigma_{iM}}{\sigma_M^2}$	$\sigma_i^2 - \beta_i^2 * \sigma_M^2$	$\beta_i * \frac{\sigma_M}{\sigma_i}$	ρ_{iM}^2

4. Empirical results

We selected a number of 11 representative US companies, which are part of the composition of the S&P 500 and DJI stock indices and we will continue to apply the principal component analysis.

Table 2. *Descriptive statistics of indicators*

Variables	Mean	Std. dev
AT	275,575,403	626,249,925
DT	57,555,673	127,523,275
EBIT	11,494,095	7,503,471
CB	199,745,232	92,215,064
CF	13,435,528	8,760,916

Source: Own calculations.

There is a strong positive correlation between assets and liabilities, assets and stock market capitalization, assets and cash flow, stock market capitalization and cash flow, cash flow and debt, which means the presence of useless information.

Table 3. *Matrix of correlation of the five indicators*

Variables	AT	DT	EBIT	CB	CF
AT	1	0.993	0.770	0.005	0.653
DT	0.993	1	0.762	-0.075	0.599
EBIT	0.770	0.762	1	0.106	0.755
CB	-0.005	-0.075	0.106	1	0.523
CF	0.653	0.599	0.755	0.523	1

Source: Own calculations.

After applying the test of adequacy, we obtained a KMO(Kaiser-Meyer-Olkin) test value of 0.632 above the value of 0.5, meaning that the sample size is adequate and the probability value obtained from the Bartlett`s Test of Sphericity is less than 0.05 (we can reject the matrix hypothesis - the correlation matrix is an identity matrix).

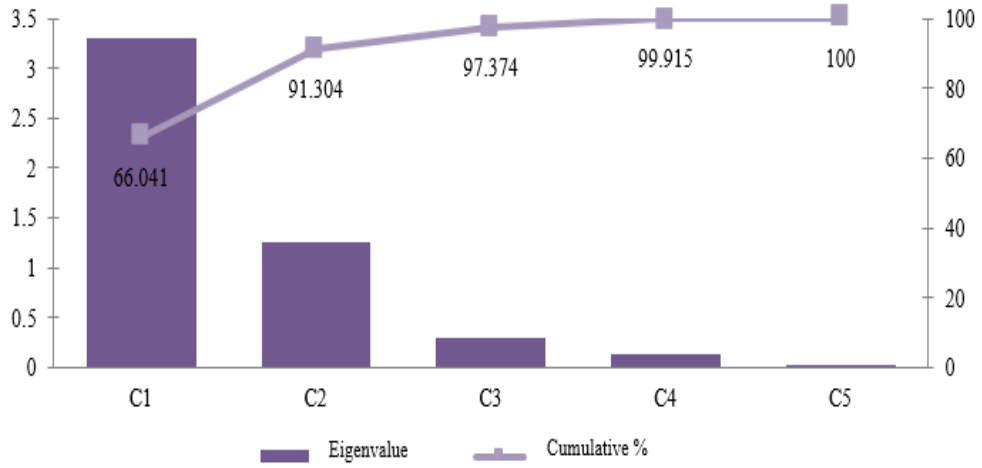
Table 4. *Eigenvalues of the correlation matrix*

Components	C1	C2	C3	C4	C5
Eigenvalues	3.302	1.263	0.303	0.127	0.004
Variance (%)	66.041	25.263	6.070	2.542	0.085
Cumulated (%)	66.041	91.304	97.374	99.915	100

Source: Own calculations.

In the figure below you can see the eigenvalues of the correlation matrix and the cumulative variance. Of the five values, only the first two are greater than 1, the remainder having an appropriate value of 0.

Graph 1. *The eigenvalues of the correlation matrix*



Source: Own calculations.

From the above, we will have two principal components that have their own values of 3.302 and 1.263. The components explain 91.3% of the total variation of the initial space, which means that the reduction of the five components to two, shows an informational loss of about 8.7%. It is important to mention that the first principal component explains 66% of the original space information so it can be used in the classification of the selected companies.

The factor matrix for the two principal components is found in the table below. The matrix elements are the correlation coefficients between the original variables and the main components.

Table 5. *Factor matrix variables*

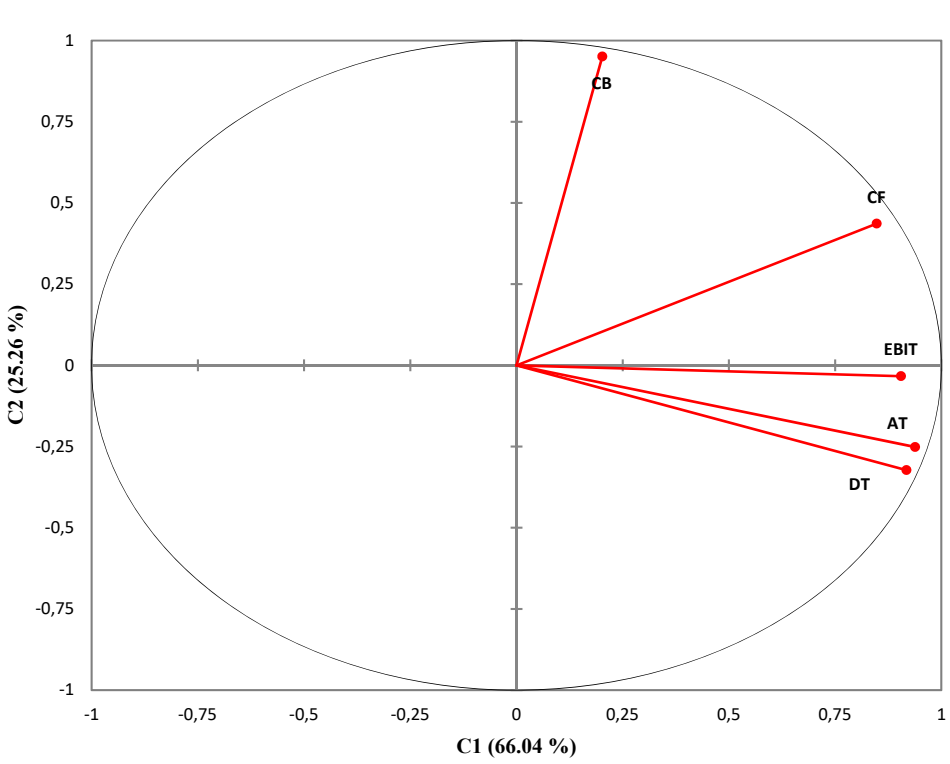
Indicators	C1	C2
AT	0.938	-0.251
DT	0.918	-0.323
EBIT	0.905	-0.033
CB	0.202	0.951
CF	0.848	0.436

Source: Own calculations.

The first main component is strongly correlated in a positive way with active indicators, debts, operational profit and cash flow, and the second component is strongly correlated in a positive sense with the stock market capitalization. The first component will provide us with information about the size of the companies studied, the way of financing and

profitability. The next main component will give us information about market value. In the following figure, the correlations between the original variables and the main components are graphically represented.

Graph 2. *The correlations between the original variables and the principal components*



Source: Own calculations.

The communality of the five indicators are calculated as the sum of the squares of the elements on the factor matrix lines and the specificities represent the decrease between 1 and the communalities.

Table 6. *Communality and specificity of the indices*

Indicator	Communality	Specificity
AT	0.944	0.056
DT	0.947	0.053
EBIT	0.820	0.180
CB	0.945	0.055
CF	0.909	0.091

Source: Own calculations.

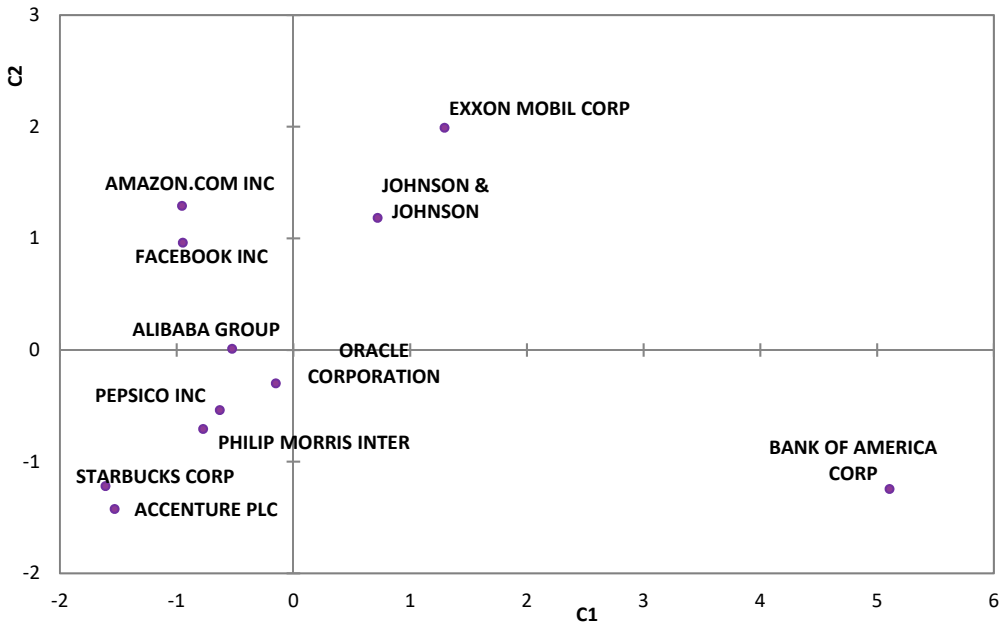
Below we present the coordinates of the observations in the main space, as well as their graphical representation.

Table 7. *Coordinates of observations in the new zone*

Issuer	C1	C2
JOHNSON & JOHNSON	0.722	1.183
EXXON MOBIL CORP	1.295	1.990
FACEBOOK INC	-0.948	0.961
ALIBABA GROUP	-0.526	0.010
AMAZON.COM INC	-0.955	1.291
ORACLE CORPORATION	-0.150	-0.299
PEPSICO.INC	-0.630	-0.539
PHILIP MORRIS INTER	-0.773	-0.708
ACCENTURE PLC	-1.532	-1.424
STARBUCKS CORP	-1.610	-1.219
BANK OF AMERICA CORP	5.107	-1.245

Source: Own calculations.

Graph 3. *Graphical representation of items in the main zone*



Source: Own calculations.

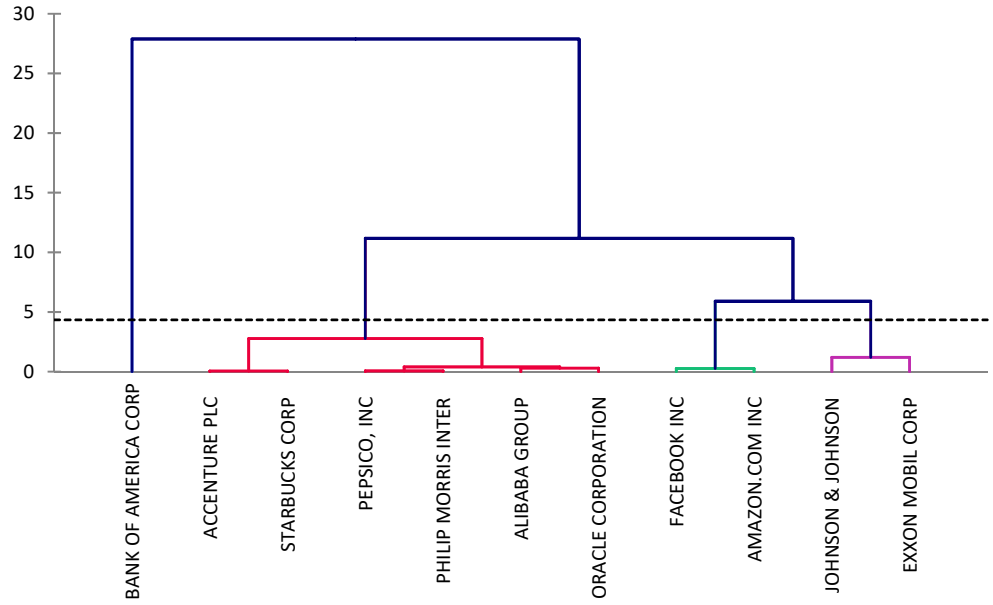
A first category consists of Johnson & Johnson and Exxon Mobil Corp, large-scale companies with satisfactory levels of profitability and high market value. The company with the largest assets is Bank of America Corp., which has a high indebtedness with excellent ability to generate profit from operating activity.

Another category is made up of Facebook INC, Alibaba Group and Amazon.Com INC, companies that have as business an e-commerce activity. They have a high market value, but the size of the assets is slightly lower compared to the first two categories and their indebtedness is low.

The last category is made up of Oracle Corporation, Pepsico INC, Philip Morris Inter, Accenture PLC and Starbucks Corp, which are active in various industries such as the computer industry, the soft drinks and food industry, the tobacco industry, the consulting industry or the coffee industry.

The following figure shows the company hierarchy on clusters. Using this chart, a new classification of the analyzed companies can be made, which will ease our selection process.

Graph 4. *Dendrogram*



Source: Own calculations.

From the dendrogram above there are three classifications of companies. The first class consists of Johnson & Johnson and Exxon Mobil Corp, the second category is made up of Facebook INC, INC Amazon.COM. The last category is made up of Alibaba Group, Oracle Corporation, Pepsico INC, Philip Morris Inter, Accenture PLC and Starbucks Corp.

In the table below are the components of the market model, the values being calculated using the smallest squares method. For the market portfolio we used the stock market indices representative for the capital market.

Table 8. *The components of the market model for listed US stock market shares*

Issuer	σ_M^2	σ_{iM}	β_i	α_i	σ_i^2	$\beta^2{}_i * \sigma_M^2$	$\sigma_{\varepsilon_i}^2$	ρ_{iM}	R_i^2
JNJ	0.00008	0.00006	0.716	0.00007	0.00009	0.00004	0.00005	0.682	0.465
XOM	0.00008	0.00008	0.981	-0.00020	0.00017	0.00008	0.00009	0.668	0.447
FB	0.00008	0.00009	1.082	0.00057	0.00027	0.00009	0.00018	0.580	0.337
BABA	0.00008	0.00008	1.051	-0.00049	0.00040	0.00009	0.00032	0.465	0.216

Issuer	σ_M^2	σ_{iM}	β_i	α_i	σ_i^2	$\beta^2{}_i * \sigma_M^2$	$\sigma_{\varepsilon_i}^2$	ρ_{iM}	R_i^2
AMZN	0.00008	0.00009	1.117	0.00151	0.00037	0.00010	0.00028	0.513	0.263
ORCL	0.00008	0.00008	1.055	-0.00047	0.00016	0.00009	0.00007	0.741	0.549
PEP	0.00008	0.00005	0.665	0.00009	0.00008	0.00003	0.00005	0.656	0.430
PM	0.00008	0.00006	0.712	0.00011	0.00012	0.00004	0.00008	0.572	0.327
ACN	0.00008	0.00008	1.057	0.00035	0.00017	0.00009	0.00008	0.727	0.529
SBUX	0.00008	0.00008	0.997	0.00042	0.00018	0.00008	0.00010	0.668	0.446
BAC	0.00008	0.00012	1.462	0.00017	0.00032	0.00017	0.00016	0.721	0.520

Source: Own calculations.

Analyzing the values in the above tables we can see that the most volatile actions are FB, BABA, AMZN, ORCL, ACN and BAC, recording a $\beta_i > 1$ and the remainder with a volatility coefficient below 1. They present correlation coefficients between 0.465 and 0.741. In the following we will apply the market model for ORCL.

We have the following regression: $R_{ix} = \alpha_{ix} + \beta_{ix} * R_{iM} + \varepsilon_i$.

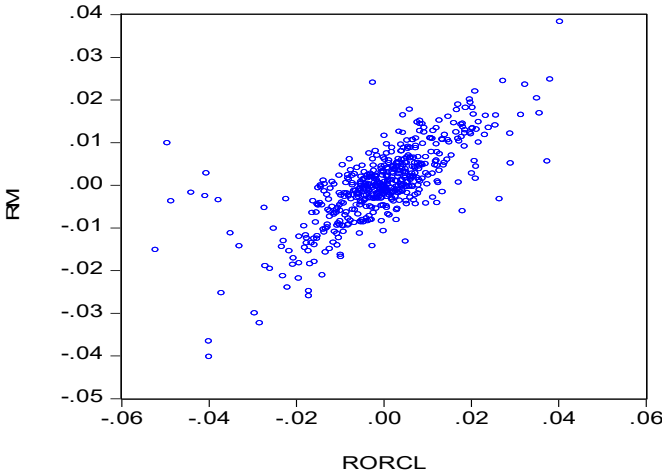
Table 9. *Estimation results*

The dependent variable	Independent variables	Coefficients	Probability
RORCL	RM	1.055	0.000
	C	0.000	0.208

Source: Own calculations

The market profitability index is positive, but the value of the free term, α_{ix}, is insignificantly statistically because the probability is higher than 5%. The volatility coefficients β are greater than one, so we can say that the selected share is very volatile, which means that an increase or a decrease of 1% of the market (market index) will cause an increase or decrease of more than 1%. In our case, the share will increase positively with the value of the coefficient β obtained.

Graph 5. *The correlation between the chosen share and the stock index*



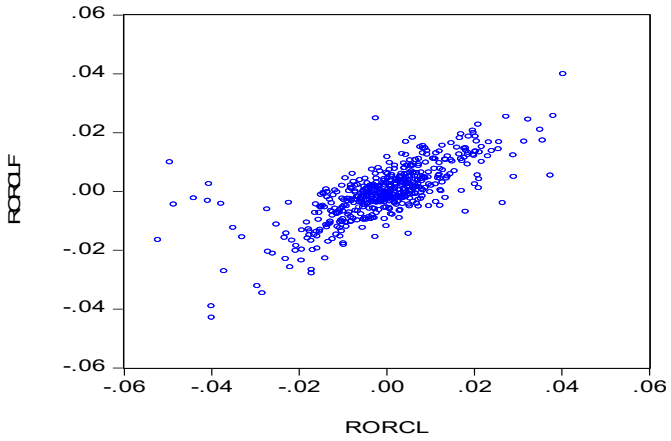
Source: Own calculations.

The overall risk of the analyzed share will be:

$$\sigma_x{}^2 = \begin{cases} \beta^2{}_i * \sigma_M{}^2 = 0.00009 - \text{market risk} \\ \sigma_{\varepsilon_i}{}^2 = 0.00007 - \text{specific risk} \end{cases}$$

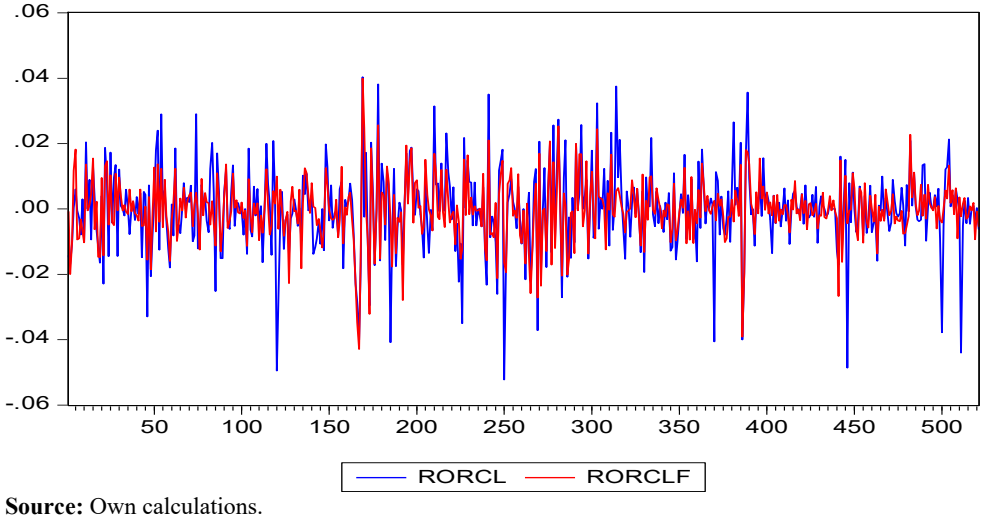
We note that the market risk is higher than the specific one, as explained by the high volatility of the assets. The correlation coefficient between the selected asset and the stock index allows us to measure the intensity of the relationship between the two. The values of this indicator is 0.741, which indicates the presence of a strong positive relationship. The value of R^2, explains that x% of the changes in the profitability of the selected action is caused by market changes. The stability of the coefficients obtained from the estimate is analyzed with a prediction for the yield of the ORCL action using the market model.

Graph 6. *The correlation between the new predicted rentability and the initial rentability of the ORCL share*



Source: Own calculations.

Graph 7. *Evolution of predicted and original rentability*



Source: Own calculations.

The stability of the coefficients obtained from the estimate is analyzed with a prediction for the yield of the ORCL action using the market model. Applying the market model for selected actions shows us its effectiveness in forecasting expected returns, but its stability against β should not be ignored.

5. Conclusions

In this paper we showed that using a statistical size reduction method, we have succeeded in selecting actions more easily and efficiently. From the multitude of financial indicators that characterize the evolution of a company, we decided to use five indicators in the PCA. Based on the results of the PCA and the dendrogram we made a classification of the selected actions. By applying the market model we noticed that the market risk is higher than the specific market risk.

The theme addressed in this paper is of interest to both investors and the academic side. That is why we believe it is necessary to continue researching and discovering the best solutions and methods in efficient portfolios management. We plan in the near future to develop this analysis by addressing other selection methods such as discriminatory or factorial analysis in order to obtain a fair selection of assets.

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Crypto-currency – Going on digital society

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Abstract. *The massive growth of technologies and the increased usage of the Internet in the world's population, have brought new technologies to facilitate communication and exchange of international goods and services breaking the boundaries of distance and time. In recent years, however, we can say that online commerce has become disturbing, generating more and more ways of nurturing the online environment, such as the well-known initiatives of few banks that joined to revolutionized the online market economy by creating digital currency. Bitcoin technology is based on a cryptocurrency trading strategy that receives a lot of attention from online traders, lately. Due to this development and price increases, encrypted transactions have become numerous, with almost every specialist approaching and explaining their own path to success on the bitcoin trading market. Most users believe that physical money will be replaced in the future by bitcoin or another virtual coins, so it is trying to introduce and explain ways to "enrich" them on the basis of these and the right strategies. This paper tries to set a future trend in crypto-currency evolution, strategies for trading and maintaining bitcoin for sustainability and efficiency, revealing advantages and disadvantages of an economy completely digital.*

Keywords: crypto-currency, digital economy, bitcoin, trend.

JEL Classification: J11, O10, M31.

1. Introduction

Ever since Antiquity, when people used precious metal coins as a method of payment, to the present day, when it came to the Internet Cryptocurrencies Internet network to begin gradually but surely replacing what we knew so far about the methods of payment and transaction classic currency. The emergence of Cryptocurrency was mainly due to people's desire to protect their online transactions better, whether we're talking about simply buying products from an online store or huge business deals. What we know for sure is that over 92% of the value of transactions across the planet is made online. This is also the perfect environment for hackers, and they manage to bankrupt a lot of pockets.

The name "Cryptocurrency" comes from the fact that behind these coins lies an almost impossible encryption algorithm, which makes them also safe to use, these being stored mostly in a virtual wallet, being accessed based on a unique code set by the owner.

People have used currencies for thousands of years. Originally, the coins were processed directly from precious metals, such as gold and silver. Subsequently, paper money was introduced and the face value of the cash was decoupled from the face value, but the coins were still backed by gold depositories. Nowadays, fiat coins are allowed to float freely, supported only by the faith and belief of the states that release them. Bitcoin is a decentralized system that attempts to overcome weaknesses in fiat and gold coins. It is not governed by central governments, such as governments or central banks, and intermediaries for issuing or settlement of foreign exchange and transaction validation, and may offer lower transaction fees for payments. The Bitcoin Foundation offers some central government for standardizing, protecting and promoting the bank, but does not act as a central bank and does not issue currency (Vranken, 2017).

In recent years, a new type of financial asset has been introduced. This new type is labeled with the generic name of cryptocurrencies. Bitcoin was introduced in 2008 by Satoshi Nakamoto, which is a pseudonym of an author or a group of authors whose identity is covered by mysteries. The term "Bitcoin" often refers to the system, while the term "bitcoin" or BTC refers to the currency unit. In this paper, for simplicity, we simply use the term bitcoin. Bitcoin is a virtual electronic currency that does not have a physical representation, such as coins or banknotes. The bitcoin ecosystem is a network of users who communicate with each other using the Bitcoin protocol over the Internet. The Bitcoin protocol is available as an open source software application and allows users to store and transfer bitcoin goods for the purchase and sale of goods or to exchange bitcoin commodities for other currencies (Vranken, 2017).

In Bryans (2014), he recalls that digital virtual currency inventor Satoshi Nakamoto wanted to bring and create a new monetary system to solve problems that a traditional monetary system does, for example one of the issues who wants to solve with his monetary system would be that the traditional system is vulnerable to inflation, while Bitcoin is not in this situation. Transactions are anonymous or pseudonymous, so Bitcoin does not require face-to-face transactions. Finally, a government body will hold a traditional coin to the detriment of Bitcoin because it provides a reputation for stability that a virtual currency cannot do. A transaction through a traditional currency will give

confidence in the value of the currency as established by the government to Bitcoin, which has a fluctuating and unstable valuation.

Reid Fergal (2013) argues that many prefer Bitcoin for political, philosophical, but not least pragmatic reasons. An understanding among more technical users of the coin is that anonymity is not a primary design purpose of the system, but opinion differs as anonymous is the system in practice. Jeff Garzik, a member of the Bitcoin development team, is quoted as saying that "it is not advisable to try large illicit transactions with Bitcoin, law enquires conducted by law enforcement agencies on the ground".

Compared to other cryptocurrencies, Bitcoin turned his attention to those affected by the financial events mentioned above, and managed to consolidate his image of supporter of freedom of expression, especially in the online environment. When Governments wished to shut down payment systems to WikiLeaks in order to censure the information given to the public, Bitcoin offered its support (Simser, 2015, p. 158).

The attention of economists in recent years is geared towards the functionality of the digital currency as an exchange medium. Some of them have a favorable attitude on the premise that bitcoin acts more like a speculative investment than a coin (Blau, 2018, p. 21).

Cottle (2013) notes a bitterly liberal feature of Bitcoin. They see this as an instrument that can be used despite of traditional currencies, as it is governments that can facilitate the amount of money on the market, which is impossible for cryptocurrency. Bitcoin develops independently by the will of governments.

In the next two or three years, the bitcoin quote will reach $ 100,000, and in the next twenty years it could grow to $ 1 million, according to Chamath Palihapitiya, head of Social Capital. The businessman, one of the bitter-haired advocates, spoke about the dramatic appreciation of the cryptocurrency, which was likened to a train without brakes, within the Squawk Box show. Chamath Palihapitiya said that he and two of his friends owned, at one point in 2013, 5% of the entire bitcoin stock package. E-commerce and e-business seem to define the same activity. In fact, e-commerce is the sales component of e-business. Both activities are based on the company's IT infrastructure. Practically, e-business covers the entire electronics procurement, inventory management, order processing, customer service and relationship with business partners. E-commerce aims to generate revenue through the Internet as well as building and strengthening relationships with customers and partners (Kogias et al., 2016).

Bitcoin's key novelty compared to other forms of cryptographic cash or virtual currencies (the European Central Bank) is its organizational technology for the whole system. The first users who used this invention wanted to avoid strengths, intimacy and availability and trust in the system (Bohme et al., 2015).

Although it is considered a secure transaction system, it has some vulnerabilities and weaknesses, such as virus cyber-attacks, information asymmetry or intimacy. Viruses are created by hackers to crack the wallet password of a person holding bitcoins, so they can fraudulently take a certain amount. Cryptocurrency system brings face to face

experienced users with beginners. Thus, those with superior knowledge in this field can take advantage of the weakness of some people. People are tempted to sell a certain amount of Bitcoin when their level decreases, which makes the experienced ones intervene by buying this amount, then capitalizing on this investment when cryptocurrency levels grow. Another weakness of this system is the intimacy of transactions. Although it is considered an anonymous system, all sale and purchase acts are visible. Users receive an automatically generated anonymous address but are identified by the help of the IP protocol that is associated with each transaction (Simser, 2015, pp. 164-166).

The Bitcoin payment system is growing rapidly, making it the market for future transactions. The possibility of fast transactions and storage of cryptocurrency makes it have a well-defined and precise structure. Although it allows anyone to invest in this virtual currency, little documentation and understanding of the process is needed. Virtual coins redefine the concept of transaction and open up new horizons in the financial fields. With a rapid development, being in step with technology, currency exchanges of currency will take the place of traditional ones, which can also lead to their elimination. However, they still do not aim to integrate into the current financial system, but rather to deepen the concept of cryptocurrencies by the emergence of more and more derivatives on the market (Mikołajewicz-Woźniak and Scheibe, 2015, p. 375).

Kim (2017, p. 305) points out that Bitcoin transactions have a lower cost for individuals than traditional ones. Thus, customers involved in currency exchanges such as banks or other central institutions are tempted to use lower-priced services. Therefore, the growth of this cryptocurrencies will have an effect on international monetary transactions, generating new investment opportunities in financial, banking or governmental areas.

According to Kristoufek (2018, p. 261), the Bitcoin market is still superficial and therefore does not attract the attention of large institutions. The emergence of other Bitcoin-derived virtual coins and having a similar price turns this market into an inefficient one. However, in order for the cryptocurrencies market to be more efficient, more and more customers need to invest, so the price will be more stable and volatile.

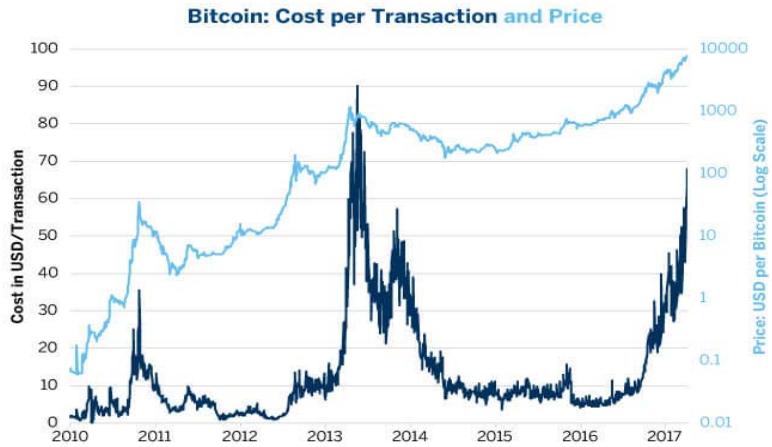
Because of its fluctuations of value, Urquhart (2016, p. 82) argues that Bitcoin is still inefficient in the market. The difference arising from the highest level and the lowest price level and the emergence of these usual discrepancies show that it is still not a valuable currency. At the same time, in order to be able to improve, investors need to better analyze the market and trade with this cryptocurrency, thus becoming an alternative to common payment methods.

Alvarez-Ramirez, Rodriguez and Ibarra-Valdez (2018, p. 955) asserts that eventual stability of the cryptocurrencies market due to the investments of large economic agents will have the effect of introducing transaction costs but also new ones. At the same time, price fluctuations will be reduced, which will lead to market uniformity. But the fact that transactions are made with pseudonyms, being a defining feature for Bitcoin, will make it difficult for this digital payment system to turn into a traditional one.

"The Bitcoin design presents distinct risks that differ from other payment methods and value stores. Here we review market risk, superficial market issue, counterparty risk, transaction risk, operational risk, confidentiality risks, and legal and regulatory risks. Any user who owns Bitcoin faces market risk through exchange rate fluctuations between bitcoin and other currencies" (Böhme et al., 2015). Which means that the current market transactions are influenced 90% of the exchange rate fluctuation.

It is important to analyze the impressive evolution of Bitcoin in 2010-2017.

Figure 1. *Bitcoin: Cost per transaction and price*



Source: https://blockchain.info/charts/market-price?timespan=all and https://blockchain.info/charts/cost-per-transaction?timespan=all

As can be seen in the picture, Bitcoin's evolution is fluctuating relative to the dollar (USD)/transaction costs. It peaked in 2013, when a dollar cost a few dollars, and after one year it dropped to $ 250-300 and will reach $ 1,000 at the end of the year.

Conclusions

In a world where we can find out any information in just a few seconds, it's normal to do the same with the transactions. Besides, it is not necessary for the money to exist in physical form, which simply reduces the support of the idea of digitizing the world, using cryptocurrency for any kind of transaction. In addition, Bitcoin's biggest advantage is that it does not include commissions, which leads most of us to choose other ways, less legal when it comes to depositing or withdrawing money from the bank. On the principle of "storing money and pulling half", people should turn their attention to cryptocurrency technology and their unique technology and problem-solving system, the advantage being on the user's side.

Subsequently, the figures show that the world is misinformed nowadays. Only 0.15% of the world's population has cryptocurrency. The phenomenon is still far from being classified as a "trend", especially since the representatives of all banks regularly draw attention to the fact that it is a scam; a natural thing because an increase in the percentage mentioned above would bring bankruptcy.

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Analysis: The impact of the banking crisis on the Romanian consumer behavior

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Abstract. *It is well known that the most of the activities organised by people and corporations aim to generate incomes and profits. Ever since ancient times, there have been some trade items for certain products or services. Overtime, the barter has turned into a selling-buying process, the main tool being the currency. But what happens when these values decrease and which are the effects produced by them upon the behaviour of the Romanian population?*

The global economic crisis beginning with 2007 started in the United States and also had a negative impact on Romanian economy and society. Unfortunately, in the Romanian economic and financial markets, there were increases rates of taxes, which only made it harder for the development of young Romanian employees, who preferred to migrate. The phenomenon of migration is happening because people think they will be able to pursue a professional activity and be properly remunerated.

In this research, we tried to identify the effects of the financial banking crisis on consumers as well as the behavioural changes which are generated by this economic status. The design survey registered a sample of 60 respondents and among the findings, we concluded that, depending on the level of income, the impact of the crisis is different, analyzing both behavioural and psycho-socio-demographic effects.

Keywords: financial crisis, banking system, banking stability, institutions, Romanian consumer behaviour.

JEL Classification: E44, G01.

1. The global economic crisis

Starting with 2000, „Central and Eastern European (CEE) countries went through an important liberalization and privatization process and adopted important structural transitions that changed the entire banking system". (Degl'Innocenti et al., 2016: pp. 23-33)

Unfortunately, the international financial crisis started in 2007 has made a lot of changes in political and economic activities in USA and Europe alike.

The US real estate crisis started in 2007 culminated with the bankruptcy of Lehman Brothers Bank in the fall of 2008 and the takeover of Merrill Lynch by Bank of America. The crisis was mainly caused by the deregulation of US investment banks and by excessive risks ran by those banks and did not selectively act only upon one single bank, but equally with the same force on all Romanian credit institutions.

One of the most affected European countries was Latvia, followed by Ireland, then by Spain. The least affected country in Europe was Sweden due to lack of minimum wage.

One of the measures taken by the countries affected by the economic crisis has been the implementation of a law to support employees, so that there has been a significant increase in mining wages in several European countries in order to increasing the number of organizations' workers. A representative example could be the one provided by the US administration, which, in the economic crisis, included among the measures addressed, the increase of the minimum wage in the economy, through the legislative basis that came into force on the 25 May of 2007. This important change was done by three main stages: on the 24.07.2007, the minimum wage was increased to $ 5.85 per hour, in the next stage, then it reached 6.55, and finally, starting with the July, 2009, the minimum wage salary reached the value of $ 7.25 per hour. Also, the measure of wage growth was adopted by both Latvia, Ireland and Spain, in order to encourage the increase of the employees' number. Unfortunately, even if the minimum wage increased, we can notice an increase in unemployment sector during the crisis. The unemployment rate had an upward trend due to the fact that the unemployment pay was almost equal to the minimum wage, so most of the unemployed did not want to work, the so-called crawling unemployment. It can be noticed the fact that there was a significant increase in unemployment, reaching about 8.8% as global average.

„Before the crisis, we can appreciate that the banking system had played an important role for the economic sector of a country" (Badar, 2017: pp. 13-35). Foreign banks invested in different countries, offering new jobs and new products to the financial market. During the 2008-2009, there were several important changes in the financial sector. Foreign banks registered a decrease in net capital from advanced European economies and in the percentage of total asset held by, and they had to withdraw from the market they were activating. However, those who didn't withdraw from any market had to run some risks in order to keep on banking. In the literature, we can observe the financial crisis of 2007-2011 urged the banks to tackle new techniques, such as:

Some of the measures taken in Europe to fight the crisis in different sectors of activity:

- in Romania, the period of granting the unemployment allowance (representing 75% of the basic salary) was extended with three months and the payments were excluded from additional taxes;
- the Romanian Counter-Guarantee Fund was set up with an unique object of activity , namely to counter guarantee Romanian grants for loans and other financing instruments obtained by different companies from banks. Creating this institution, amounting 100 million euros, the government wanted to add new jobs in Romania;
- Bulgaria raised its capital spending to $3.66 billion to finance new infrastructure, health and education projects;
- The Czech Republic increased the value of the stimulus package to $3.3 billion;
- Lithuania - Economic stimulus was about $1.86 billion, aimed toward facilitating access to businesses crediting, with the goal of preserving jobs and improving living standards;
- Portugal wanted to increase GDP (PIB) by 0.7% with a package of nearly 2.2 billion euros. This amount was invested in schools and alternative energy.
- Slovakia adopted a package of 332 million euros economic stimulus, aiming at a partial and temporary reduction of wage taxes, as well as the creation of new jobs.
- Great Britain invested 500 million pounds (754 million dollars) to reduce the unemployment rate, and employees received 2,500 pounds but only if they had had a continuity of at least 6 months with the same company.

2. Economic crisis in Romanian banks

The main cause of the global economic crisis which made its presence felt in Romania was the debt crisis, the crisis that began in all countries of the world, especially in the best developed ones. A correction of over-indebtedness, an excess that was caused by an increase in unsustainable indebtedness, more than ten years in most countries of the world, has been attempted. On the one hand, in order to correct this mistake, several governments adopted a series of austerity programs, and on the other hand, various enterprises have tried to reduce their debts to the state or to another banking financial institutions.

One of the most important institutions, during the crisis and beyond, is the European Central Bank, the only one to decide the dynamics and speed of the money supply, depending on various political and social interests. The fact that practically there is a low cost for the ECB in printing money leads to a new approach such "too big to fail" policy, so most banks, including those in our country, are encouraged to stumble, hoping to make a profit. Nevertheless, if the issue of currency is not a profit-making one, we can see an increase of inflation. Although the issue of currency is aimed at helping the society, even though indebtedness, it finally slides to a negative effect on the population. We mean inflation, also known as "living cost rising". This effect is well known by the Romanians, who have been used to it ever since 1990’.

We can say that the emergence of the crisis in the banking system has been the accumulation of vulnerabilities caused by many favourable conditions: the decline in interest rates over a long period, the ease of crediting both individuals and businesses, low volatility in financial markets increases in asset prices. During the years, these vulnerabilities have also been observed in the Romanian banking system.

However, what were the main effects of the global economic crisis in the Romanian banking system? We can say, the most important effects of the crisis reflected on our country may be summarized as follows:

- The first institution struck by the crisis was the capital market (the Bucharest Stock Exchange fell on September 1, 2008 by over 4% and on September 2 by over 7%);
- Dramatic decrease in volumes on the real estate market. Both transactions and investment declined in the residential and also in commercial sectors;
- Decreases in equity market shares;
- Adjustment of bank size with direct effect on aggressive branch closures and massive layoffs, not only in Romania, but also in Europe.
- The oscillating evolution of the credit cost. Some voices on the market believed that the cost of credit and the availability of the premises would continue to grow. Romania is in a different position, meaning that most of the major central banks initially adopted lower interest rates, sometimes down to negative interest rates (Switzerland, Sweden, Japan). Currently, the trend is reversing; the sharply increased interest rates. Federal Reserve, Federal Central Bank (Fed) In March 2018, the Federal Reserve (Fed) raised its monetary policy interest rate by a quarter percentage point in the range of 1.50% to 1.75 The National Romanian Bank decided on 07.02.2018 to raise the monetary policy rate to 2.25% per annum from 2%, on 8 February 2018 and also decided to increase the interest rate on the deposit facility from 1.25 % to 1% per year.

In 2016, it can be noticed that in the banking sector there was an improvement in the quality of the clients' portfolio of assets, so in 2016, it was a profitable year for this economic sector. An eloquent example is the 2.3 times reduction in the number of bad loans compared to 2013.

3. The consumer behaviuor

Even from the beginning, a marketing research of consumer behaviour has been characteristic to focus attention on a particular individual consumer. As a critic has rightly remarked, traders have studied the consumer as fishermen study fish, not ichthyologists. With this approach, the needs of a consumer are considered to be congenital and not society-based or market-driven, so firms tend to catch the "dependent" consumer by offering goods or services that meet these needs better than what competitors offer. "Thus, traditional marketing research on consumer behaviour is close to the concept of rational economic man" (Belk, 1995: pp. 87).

However, what is the consumption? Traditionally, it is seen as a way to meet basic human needs through single or long-term consumption - destroying goods. So, consuming bread, you destroy it, using clothes, you wear it. However, the study of consumption in developed countries of the "Modern West" has led a number of researchers to the conclusion that consumption becomes a first generation of symbols for the general public (Baudrillard, 1996: p. 53). For example, a person buys fashionable clothes so that everyone can see their modernity and avoid extravagance, so that they are not called excentric, etc. In other words, a consuming person tries to inform others about some information about himself, in this way he writes a specific text.

Consumers of financial-banking services want to satisfy their needs in the relationships developed with the banking financial institutions: one of their main needs is to balance consumption through deposits and loans, deposits help save it for a long time, and lending them offers its clients liquidity in a short time. Another important need for customers is money transfer, especially through Internet banking, thus saving time.

In the Romanian banking and banking market, the evolution of demand can be briefly described by presenting the results of a study conducted in March 2007 by the research company Daedalus Consulting. The study was conducted on a sample of 1,083 respondents from the urban area aged 18-65 years. (Www.daedalus.ro, March 2007). The study's findings show that the most used bank product is the card, regardless we refer to a credit or debit card. The high utilization rate of this banking product is supported by wage cards, which are used by more than 40% of the adult urban population.

Even though the economic crisis has emerged, it is apparent from the study that most respondents prefer the use of the card for various bank transactions.

4. Qualitative research

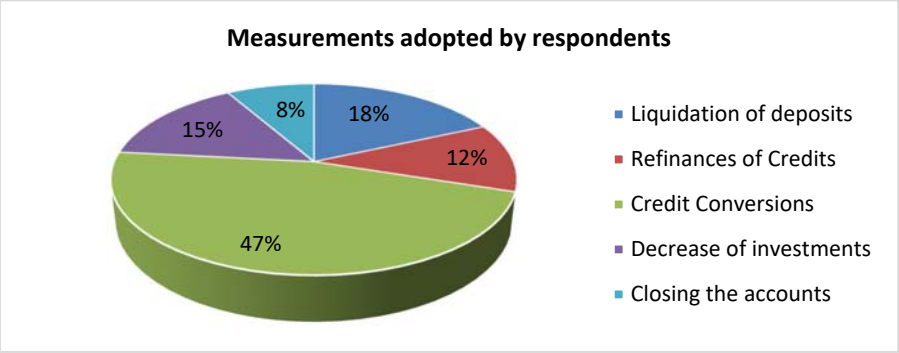
We conducted a survey among 60 respondents, consumers of various banking services on the Romanian market in order to be able to identify the effects of the financial banking crisis on consumers as well as the behavioural changes that are generated by this economic status.

In the survey, respondents were asked to describe the relationship with the bank, given the 2008-2011 economic crisis, and among their responses we can analyze the following:

- Most of the deposits have been liquidated, both in foreign currency and in lei, due to the decrease of interest offered by the bank.
- External loans have been refinanced, respondents targeting banks that have provided fixed-rate loans; customers preferred this type of product, as ROBOR recorded a significant increase during the economic crisis.
- The number of investments made in shares, bank bonds decreased, because there was a very high risk of loss.

Further, they were asked what steps would take and the results showed as follows:

Figure 1. *Adopted measurements during the economic crisis by respondents*



Source: Realised by author in the research.

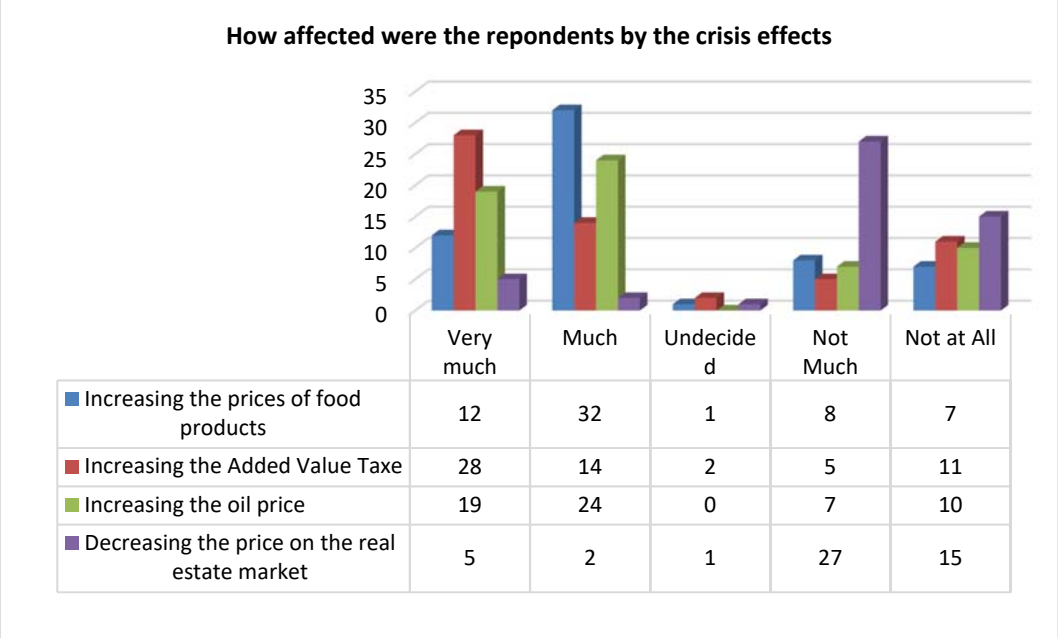
From the study we can conclude that most people chose the conversion of credits in the national currency, conversions from CHF in RON, due to the sudden rise of the Swiss franc on the market; an 18% respondent said that, following the decline in the interest rate offered by the bank, he decided to liquidate the deposits and withdraw money from the bank. Also, 15% of the respondents preferred external refinancing of loans, thus obtaining a fixed interest rate, and not one that depended on the NBR's reference interest rate fluctuation.

Further, the respondents were asked if the changes made also produced effects at their consumption level:

- Considering the fact that they have withdrawn their savings from financial banking institutions, people have had access to the savings, and thus purchased different household products.
- Increased online transactions by respondents, as they watched the evolution of foreign currencies and the right moment for foreign exchange.
- Those who managed to liquidate the credits, also decided to close the bank accounts and thus to cease any relationship with the bank.

Hence, we can see that most of the respondents underwent behavioural changes as a result of the economic crisis. Another factor that strengthens the previous statement may be the one concerning the economic activities carried out by them during the economic crisis.

Figure 2. *How the respondents were affected by the crisis effects*



	Very much	Much	Undecided	Not Much	Not at All
Increasing the prices of food products	12	32	1	8	7
Increasing the Added Value Taxe	28	14	2	5	11
Increasing the oil price	19	24	0	7	10
Decreasing the price on the real estate market	5	2	1	27	15

Source: Realised by author in the research.

For increasing the food products prices: $[(12x\ 5) + (32\ x\ 4) + (1\ x\ 3) + (8\ x\ 2)$+(7 x 1)]/60= 3.73

For increasing the Value Aded Tax: [(28 x 5)+(14 x 4)+(2 x 3)+(5 x 2)+(11 x 1)]/60=3.71

For increasing the oil prices: [(19 x 5)+(24 x 4)+(0 x 3)+(7 x 2)+(10 x 1)]/60=3.58

Decreasing the acquisition price of the flats: [(5 x 5)+(2 x 4)+(1 x 3)+(27 x 2)+(15 x 1)]/60=1.75

After analyzing the obtained results, we can see that the respondents were affected to a large extent by the significant increase of the food prices on the market and the least by the saddlery of the real estate prices, the respondents deciding not to acquire the real estates except in a very small measure.

5. Conclusions

The global crisis started in the US has had a major impact on all countries and negatively influenced their political and social status, Romania being one of the countries visibly affected by the 2007 crisis. The biggest effect of the crisis in the market financial-banking sector in Romania was the increase of the benchmark interest rate imposed by the NBR, as well as the depreciation of the RON against foreign currencies, such as the CHF, EUR, USD.

From the survey carried out, it can be noticed that a rise in the benchmark interest rate, which led to higher interest rates charged by banks, has led to the reorientation of clients to banks with fixed-rate lending types.

Also, as a result of the research, we observe that although the real estate price has dropped significantly, the Romanians did not prefer to make such an investment, fact that led to a drastic decrease of the real estate market in Romania.

In the qualitative research it was possible to point out that the economic crisis that led to the increase of consumer goods prices visibly affected the respondents.

Globally, there has been a significant increase in unemployment and inflation, and in Romania in 2008-2011 there has been a significant increase in the migration rate of young people who preferred to work abroad in order to obtain a net salary higher than that which they would have obtained in their native country.

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The issue of flexicurity in the European Union labor market

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Abstract. *The successful change in the Danish and Dutch labor market approach from passive to active employment policies and towards flexicurity in the 1990s has drawn the attention of policy makers at EU level. The objective of this article is to confirm that preferences in the balance of flexibility and security are very heterogeneous among countries, a finding that supports the approach proposed by the European Commission in the Europe 2020 strategy.*

Keywords: labor market, flexicurity, unemployment, European Union, macroeconomic policies.

JEL Classification: J08, J28, J60.

Introduction

"Flexicurity" could be defined as a mix of flexible contractual arrangements, income support measures, active labor market policies and lifelong learning. Recognizing that public policy can play a role in assisting individual workers and businesses to ensure a smooth and efficient labor market functioning, several decades ago, Sweden and Denmark have introduced mechanisms to that end.

At European Union level in 1997, the European Council highlighted the potential to use active labor market policies to stimulate employment and combat unemployment. It is therefore not surprising that these experiences have attracted considerable interest among the other EU Member States and that the concept of "flexicurity" has gained both political and scientific significance at EU level.

Towards greater flexicurity in the European Union

Major steps towards a more explicit implementation of this concept at EU level were taken in July 2006 with the creation of the Expert Group on Flexicurity at the European level, the publication of its report in June 2007(1) and the Commission Communication of July 2007(2) followed by a report by the Employment Committee (EMCO) on monitoring and analyzing flexicurity policies(3).

As the EMCO report shows, the Commission and the Member States have come to the conclusion that flexicurity policies can be designed and implemented within four components of employment policy.

The four components are:

- Flexible and reliable contractual arrangements (from employer and employee perspective) through laws, collective agreements and instituting modern work.
- Comprehensive lifelong learning (LLL) strategies to ensure adaptability and the ability to continuously employ workers, especially the most vulnerable.
- Active labor market policies (ALMP), which can help people to cope with rapid change, reduce losses and facilitate the transition to new jobs.
- Modern social security systems that provide adequate income support encouraging employment and facilitating mobility on the labor market.

This components include a broad coverage of social issues (unemployment benefits, pensions, and health care) that help people combine work with private and family responsibilities, such as childcare.

Flexicurity as a determinant of employment performance

The main message from the specialists in the domain is that security is stronger than flexibility as an explanatory variable(4). The second one shows that flexicurity is not

simply the average of flexibility and security and that its impact is stronger on marginal groups. As far as flexibility is concerned, they are in line with literature.

The effects of labor protection legislation show that, in principle, there are pros and cons in terms of its positive and negative effects on the labor market. Labor protection legislation is expected to increase labor costs and create a gap between people living inside (stable contract workers) and those outside the labor market (unemployed or irregular workers).

According to Saint-Paul (2002), Labor Protection Law (EPL) is the result of a kind of compromise by workers currently working for lower wages in return for increased labor protection.

On the other hand, labor protection legislation will increase the incentives for the employer to invest in training, the loyalty of workers and their willingness to accept technological change - all these are productivity incentives.

Labor protection legislation is also a shock absorber or power cutter during economic crises (De Grauwe, 2009) and a tool to prevent discrimination against vulnerable groups such as the elderly, women and workers with disabilities.

However, what theory suggests is not always confirmed by empirical evidence. In fact, labor protection legislation leads to:

- Increasing the duration of unemployment periods and the long-term unemployment rate;
- Reducing the dynamism of the labor market by widening the share of workers with high jobs and reducing the turnover of the labor force;
- Increasing the negative impact on employment rates of women and young people.

Starting positions for legal and contractual patterns are so diverse from one country to another and are so deeply rooted that they need to be taken into account when proposing a policy transfer.

In other words, the idea of flexibility in favor of employers and security in favor of employees must be overcome. However, a distinction needs to be made: the positive impact of flexicurity does not apply uniformly to all age groups.

This is important in the short and medium term because, on one hand, the younger group is the most penalized by the economic crisis that has passed and, on the other hand, the older group is the one that imposes more challenges on the future sustainability of social systems, given the aging of the population.

However, the labor market cannot be discussed without linking the reflection to the current situation. Therefore, the question is: what is the link between the economic

crisis that took place a few years ago and flexicurity? It would be tempting to say that the latter is the solution to the first, but that would be only partially true.

It is true that if there is a flexicurity system, people who lose their jobs receive financial support from the state and concrete support for finding a new job but flexicurity will not solve the problem of the current fall in labor demand.

However, as a supply strategy, it will help speed up recovery by creating a healthy and attractive labor market where companies can find the necessary skills.

Unfortunately, there is still a link between flexicurity and the current recession: the establishment of such a system requires social investment. Denmark, for example, is the country with the largest total spending on labor market policies in Europe. This means that the probability of being able to finance the system is lower as the level of public debt is higher.

Conclusions

Member States' preferences for balancing flexibility and security are extremely diverse and cover all possible policy mixes. The "low flexibility and low security" recipe is predominant, but there are also countries with both well-developed elements (especially the Nordic countries) and others with a stronger preference for flexibility (in Central Europe).

In order to achieve a sustainable economic and social balance, medium-sized entrepreneurs, for example, need to modernize their labor market policy by improving activation and training measures. Weak people need to make enormous efforts to move in one of the flexicurity directions.

Finally, if the analysis reveals the strength of the link between flexicurity and employment performance, we must not forget that other factors remain important, both in the short and medium term, including: the level of education, design and intensity of active programs the labor market, early retirement provisions and the impact on cost competitiveness.

Flexicurity is therefore not a panacea, but a key element in the broader framework of labor market policies.

Notes

(1) Flexicurity Pathways: Turning hurdles into stepping stones, Report by the European Expert Group on Flexicurity, June 2007.

(2) European Commission, DG EMPL, Unit D2, Towards Common Principles of Flexicurity: More and better jobs through flexibility and security, July 2007.

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(4) Ilaria Maselli, Beyond Flexibility and Security, A composite indicator of flexicurity, CEPS Working Document No. 329/May 2010

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Controversial views in analyzes of classical economists

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Abstract. *Economic classicism is the beginning of the development of the proper economic science, characterized by the works of the great English economists (Smith, Ricardo, Malthus and Mill) and French (Say).This article highlights some divergences of opinions regarding at the classical economists' views of commodity value, income distribution and causes of economic growth. Smith elaborates the value-work theory, later rectified by Ricardo and rejected by Say who adopts the theory of value. The income distribution is addressed differently because if Smith believes the fact that the workers are exploited by the owner of the capital, Say considers for the first time the fact that there is an entrepreneur. The saving in Smith's conception depends on the evolution of the population and the nature of the resources in the Malthusian conception.*

Keywords: economic classicism, commodity value, economic growth, income distribution, entrepreneur.

JEL Classification: B12.

Introduction

Analyzes of economic phenomenon existed indirectly since ancient times in the works of the great Greek philosophers. Afterwards, the mercantilists and the physiocrats works approached economic issues, but they are considered to have no scientific character. Economic classicism, however, represents the early period of development of the actual economic science.

Temporarily marked for about a century, starting with the second half of the 18th century, it has as main representatives on Adam Smith, David Ricardo, John Stuart Mill and Thomas Robert Malthus in England and respectively Jean-Baptiste Say in France. In the following we will briefly discuss some differences of opinion in the classical economic paradigm regarding the value of commodities, the nature and distribution of income in society and the issues of economic growth and crises. These must be interpreted differently in relation to the economic and social development specific to that period which is characterized by the apogee of manufactures, the development of machinery and industry, the separation of social classes (workers and bourgeois), urbanization, etc. (Valier, 2005: p. 41).

Even though the doctrinal approach is the same, that of the economic liberalism, developed by Smith and taken over by Ricardo, Malthus and Say in their economic analyzes there are divergent views mainly on the value of commodities, the nature and distribution of income, economic growth and crises.

1. The commodities value - controversial opinions

The issue of commodity value was first approached by Aristotle who considered that any commodity has a value of use, conferred by its usefulness and an exchange value when it is the object of sale-purchase at a certain price. It is in agreement with the exchange of products but prohibits getting overpriced by selling goods at a high price (Valier, 2005: p. 14).

Adam Smith develops value-work theory, subsequently adopted by David Ricardo, according to which the value of a commodity is given by the amount of labor required to produce it. Starting from here any product has a natural price determined by the labor cost and a market price that fluctuates around the natural price (Smith, 1776: p. 72).

David Ricardo in the first chapter of his famous *On the Principles of Political Economy and Taxation* (1817) titled "On Value" takes over the theory of Adam Smith's value of work that he improves. Ricardo considers that Smith's work- value theory was valid only in the primitive stages of social development, as he has said, and it is paramount that the value of goods depends on technical progress, labor productivity and social development. At the same time, he founded the idea that the size of the value of the commodity is determined not by the individual production conditions but by the social ones considered

to be the most unfavorable ones that make it possible to continue production. Until Ricardo, value is often confused with wealth. Bearing in mind the differences between these two categories, he writes that value is a product of labor and only of herself, whereas wealth is the result of man's cooperation with nature and the means of service (Ricardo, 1817: p. 20).

The systematization of Smith's theory of value makes Say renounce the idea that it would be the fruit of labor and would involve well-defined social relations. If Adam Smith distinguishes between productive and unproductive labor and considers the value of productive labor as worth, at Say this distinction disappears. The following quote is eloquent: "They are productive, Say writes, not just agricultural work but all the work that produces utilities and are productive not only the work that creates directly material goods but all the work that amplifies the ability of things to meet our needs and satisfy our desires" (Say, 1804: p. 64).

He doesn't make a clear distinction between value and wealth. Say considers the value as the sum of utilities imprinted to the goods by the three factors of production and thus justifies the way in which the revenues of the three factors of production are distributed, respectively by the contribution they make to the value-creation utility. He rejects the theory of value-work and adopts the theory of utility value which were originally set by Aristotle and which will be developed later by the neoclassicals. The price of a product depends on the demand-offer ratio and any offer creates its own request (the law of debts).

According to Say's conception, the political economy is the science that studies the production, distribution, circulation and consumption of wealth in the context of the proper use of the three factors of production - labor, nature and capital - as well as the supply-demand relationships established in the market. The three areas of the evolution of the real economy: the production and movement of goods, the distribution of incomes and consumption are also the three distinct books of his famous *Treatise on Political Economy* (1832). This is a science with a pronounced normative character that underlies the spontaneous establishment of the order of economic life.

2. Issues of nature and income distribution

The problem of income reprocessing is tackled differently by the classical economists. Smith believes that workers can be considered productive (those who actually make the goods) and non-productive (those who provide services). Therefore, if the value of the products depends on the amount of work needed to achieve them, the workers are exploited, the profit of the capital owner being extracted from here. In Smith's view, there is no entrepreneur but only a capital owner, the market price of the product, including the cost of labor, the value of the rent and the value of the capital owner's profits (Heilbroner, 1986: p. 64).

Ricardo develops the differential rent theory according to which soil fertility and proximity to industrialized processing areas determine the establishment of a differential rent for that land surface (Ricardo, 1817: p. 8).

In Say's conception, there is no capital owner with an entrepreneur who buys the production factors from their owners and then rewards them from their profits (Say, 1804: p. 20).

An important merit in this direction is the surprise of the "entrepreneur" as the central character of economic life. For Say: "The chief agent of economic progress is the industrious, active, trained, ingenious inventor, inventive farmer, the bold businessman, the man who engages in everything as far as scientific discoveries are concerned and the outbreaks are expanding. the one who, more than the actual capitalist who gives the money and receives the royalties, more than the relatively passive landowner, more than the worker who receives the orders over what he has to do, leads the production and dominates the distribution of the riches" (Say, 1804: p. 343).

Due to the entrepreneur, Say said, the value of the products is divided between different productive services and the various services are distributed between industries. The theory of distribution is thus coordinated with the theory of exchange and production.

3. Sources of economic growth and crises

The issue of economic growth is tackled differently by the classical economists. Smith believes that saving is the necessary and sufficient condition for capital accumulation and economic growth (when economies are destined for entrepreneurial activity). The algorithm is the following: savings are invested in equipment designed to increase production to meet the demand for goods. It overlooks the situation where the lack of demand makes it impossible to save, to accumulate capital and to increase economic growth.

In conception of Thomas Robert Malthus, economic growth must be analyzed in relation to population growth. He analyzed the trends in population growth in the period preceding the eighteenth century and reached his famous postulate according to which livelihoods grow in arithmetic progression and the population grows geometrically. Taking the example of the US economy, where livelihoods are growing rapidly, Malthus finds that occurs population doubling every 25 years (Malthus, 1817: p. 7).

Generalizing this trend over a period of 1,000 years concludes that livelihoods will increase in arithmetic progression 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and human species growth geometrically 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, etc. So, in 25 years, the ratio population/livelihood will be 512/10, in 300 years, 4096/13 and in 2000 years will be almost immeasurable (Malthus, 1817: p. 20).

He believes that the number of population increases invariably where livelihoods grow except when strong population growth face obstacles embodied in moral restraint, vice and sufferings. So we will find a strong law to harmonize the two developments.

4. Conclusion

Concluding, it can be said that the period of economic classicism represents the first major stage in the development of economic science that makes the transition between incipient stages (mercantilist and physiocratic works) and the neoclassicism stage characterized by marginalist approach and quantitative theories in economic science.

At the same time, the classics of economics set the basic conceptual sphere of economic science in relation to empirical observations on the real economy development of that time.

It is also the conclusion that the famous economist Albert O. Hirschman will later find in economic research: "the economy combines with sociology and these in turn with political science and history in a succession of border violations and border crossings" (Hirschman, 1998: p. 16).

Therefore, the economic phenomenon needs to be explained in a multidisciplinary way by analyzing the causes in relation to the interdependent phenomenon affecting the economic and social affairs at that moment.

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