Business Administration and Business Economics

Taylor's Scientific Management

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Abstract: Frederick Taylor is known as the father of modern management. Taylor's scientific management revolutionized industry and helped shape modern organization. Scientific management revolutionized industry because it explains how to increase production by working smarter, not harder. Taylor's ideas were not limited to only serving the company's bottom line but the increase in productivity benefited the workforce as well. The principles of scientific management became a machine of universal efficiency since there was a widespread use of scientific management worldwide and beyond the scope of the workplace. Taylor's theories on using science and statistical fact have become a guideline that many have followed to great success.

Keywords: Frederic Taylor; scientific management, productivity, organization, output

JEL Codes: M10; M11

1. Introduction

The fastest way from point A to point B is a straight line. Scientifically, it is a proven fact. Mathematically, it is the shortest distance, therefore takes the less time. The travel of a straight line is an absolute model of efficiency at its purest. Frederick Winslow Taylor could not have agreed more. Taylor was a firm believer in using science and raw data to determine the most efficient course of action. Guessing was not allowed. Through research and meticulous analysis, only then could a process be established, fully grounded in scientific fact. It is these principles that allowed Taylor to establish scientific management, a management theory used to improve productivity.

Frederick Taylor, known as the father of modern management, was born into an affluent Philadelphia family, and studied engineering at Steven's Institute of Technology in New Jersey. Taylor began his career as an apprentice foreman and

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common laborer. He would quickly advance to chief engineer. His direct observations of men at work led him to develop what we would call "motivation" theory, although this is a psychology term that would not be imported into the management vocabulary until later.

Taylor called it scientific management. Taylor's own point of view, although benign towards workers, saw human labor very much analogous to machine work--- something to be "engineered" to achieve efficiency. His theories on management are promoted worldwide (and maybe took stronger root in Japan than in the U.S. or Europe) and would be controversial at home. (mgmtguru.com)

2. Industrial Revolution

In order to understand how Taylor's scientific management revolutionized industry and helped shape modern organization, one needs to understand what came before him. The industrial revolution had been underway for nearly 100 years before Taylor took his first job as an engineer at Philadelphia's Midvale Steel Company in the Fall of 1878. (Nelson, p. 29)

Most histories of the industrial revolution focus on technological developments, such as interchangeable parts, steam power, and the assembly line. Very little has been written about how nineteenth century plants were organized and managerial power was delegated. In virtually all industries, regardless of the types of manufacturing operations taking place, the foreman was, for all intents and purposes, the manufacturer. (Nelson, p. 4)

The foreman had near absolute authority over the workers. He was responsible for hiring and firing personnel, training them, arbitrating grievances, promoting and demoting workers, and enforcing the manufacturer's personnel policies regarding work hours, personal appearance, and rules of conduct. In many industries the "piece work" system was common. The foreman set the wages using a "rule of thumb" method. (Nelson, p. 8)

The manufacturer, for whom the foreman worked, usually watched the payroll very closely. When piece workers were so productive that they earned more than the prevailing day wage, the manufacturer would order the piece rate cut, removing any incentive to produce more. Combined with the difficult and unsafe work environments in many factories, there was a more or less permanent state of labor-management strife. Strikes and violence were common. (Nelson p. 9)

3. Scientific Management

In 1903, Taylor wrote *Shop Management* where he discussed his management principles. In it, Taylor theorized that workers were inefficient because they tended to ration their workload or work less than they could to prevent the job tasks from running out, resulting in a loss of wages. Management also failed to structure work effectively and to provide appropriate incentives. (mgmtguru.com)

Taylor would later elaborate on his management theories in 1911, when he published *The Principles of Scientific Management*. Scientific management consisted of four basic principles:

1. Replace "rule of thumb" work methods with methods based on a scientific study of the tasks.

2. Scientifically select and then train, teach, and develop the workman.

3. Provide detailed instruction and supervision of each worker in their given task

4. Divide work nearly equally between managers and workers, so that the managers apply scientific management principles to planning the work and the workers actually perform the tasks.

These principles clearly defined the workforce. Workers were charged with the physical labor and management was given legitimate authority to discern how the organization should be run.

Scientific management revolutionized industry because it explains how to increase production by working smarter, not harder. Up until that time, increasing output meant more hours, more employees, more raw materials, and more costs. Scientific management uses basic logic to show how standardization, productivity, and division of labor painted a picture of efficiency that resonates today. Not only does scientific management aid a company to accomplish its goals, but it improves the quality-of-life of the workforce, creating a win-win situation for all parties involved.

Creating standards is at the core of why scientific management is a beneficial organizational model. Standards are universally accepted guidelines that help govern procedures and courses of action for given scenarios. A common bottleneck that organizations face is "rule-of-thumb" or guess-work when it comes to dealing with issues, by not having a clear path to follow. Having a standard in place would eliminate this uncertainty and allow the wheels to continue moving forward.

"The standard" should also be looked at as a benchmark, a level or point of reference from which measurements can be made. Measurements allow for an analysis of productivity. They are used to identify how efficiently employees, processes, and procedures met or exceed the standard.

"The system's base was research and experimentation to replace the old 'rule of thumb." (Wrege, p. 255) Research under scientific management is the collection of raw data. Research is one of the most crucial components of developing a standard. The raw data gathered can be measured. It's something tangible, something that can be accounted for.

Two classic examples of scientific management increasing productivity and benefiting the workforce are the pig-iron and shoveling experiments Taylor conducted. Pig-iron is a term used when melted iron is allowed to flow into a gridiron of damp sand, creating bars that can then be handled. Using time study, the study used to reduce the number of motions in performing a task, Taylor was able to gather the raw data needed to analyze a specific task. "The idea of 'guessing' about the time required to perform a job was against Taylor's basic outlook." (Wrege, p. 54) Taylor began using a stopwatch to first study what the machinery would do and the time it took. Then he studied the individual worker. This allowed Taylor to record how long each process took and discover which processes took the most amount of time, discovering any bottlenecks.

Taylor's analysis showed that an average worker loaded 12.5 tons of pig-iron per day. On the high-end of the spectrum, workers were able to load 48 tons per day. Taylor realized that a specific skill set was required in order to load those 48 tons. He studied the characteristics, work ethic, and habits of top-performing iron handlers. Those methods were recorded and used to scientifically select the workman. "Our first step was to find the proper workman to begin with." (Taylor, p. 61) Workers were then brought in that matched the skill set of those that were able to load 48 tons per day.

Taylor's study also showed that there was a specific method of pig-iron handling and shoveling that yielded the best results. "One man after another was picked out and trained to handle pig iron at the rate of 47.5 tons per day until all the pig iron was handled at this rate." (Taylor, p. 61) By studying the raw data collected, Taylor was able to determine not only the type of worker that was needed to handle the task, but also determine the "one best way" of completing said task. "I have not the slightest doubt that different size shovels and implements for handling dirt have been in existence for hundreds of years." (Wrege, p. 122) Taylor was able to prove that the weight of the shovel, the weight of the load, the angle at which the load was lifted, and the technique used to dump the load all had an impact on output. Scientific management was able to increase productivity by roughly four times.

Taylor's ideas were not limited to only serving the company's bottom line. The increase in productivity benefited the workforce as well. Workers were paid by "piece rate, " a fixed wage for each unit produced or action performed. This generally failed because standards were poorly set, employers cut rates when workers earned "too much", and workers would conceal their real capacity for

production to keep standards low. In order to rectify this, Taylor pushed for standards to be set for wages. A clearly defined wage should be established and be directly related to the complexity of the job. (mgmtguru.com)

Scientific management had increased a worker's output, allowing them to take home a greater pay than ever before. Under the system, incentives were offered for greater output. Even in modern times, this principle holds true for those that earn bonuses from commission.

The increased output did not come at a physical cost to the worker as one might assume. For those not under scientific management's guidelines, increased output meant that the worker had to work harder and work longer hours. Scientific management preached efficiency in order to increase output. Workers did not need to physically exhaust themselves. They needed to work smarter.

Although jobs were made easier and simpler, physical labor is still demanding on the body. Taylor observed that the pig-iron workers could not keep a sustained output of 47.5 tons per day. By the fourth day, the worker was too exhausted to function at his normal pace. Through his experiments and research, it was determined that rest breaks were needed in order to prevent diminished results. Again, through meticulous study, the precise type of rest, the duration of rest, and frequency of rest period were all calculated to yield the best results. "The men were made to take a rest, generally by sitting down after loading 10 to 20 pigs." (Taylor, p. 61) Even if the men were not tired, they were forced to take the recommended rest in order to sustain the output of 47.5 tons per day throughout the work week. Workers today continue to benefit from breaks during the course of their shift.

Scientific management also laid the foundations of how businesses should be run from an organizational standpoint. Separating the workforce from management proved to be a recipe for success at the time. A job required a specific type of employee and at the same time, an employee was matched to a specific job that suited him. Management was left to improve other aspects of the business.

Managers were taught to look at every aspect of a manufacturing operation as a piece of an integrated system. Improvements made to one process would lead to improvements to a different process down the line. "The idea that every part of a factory or a whole organization should be scientifically analyzed and redesigned to achieve the most efficient output." (Wrege, p. 255) Managers could continue to use time study to improve and eliminate bottlenecks. Instead of leaving the workers alone to solve problems they might be confronted with, management would be able to determine the best course of action scientifically and then train the worker to perform the task accordingly.

Separating the workforce allowed businesses to operate more efficiently. The worker would concentrate on the day-to-day tasks asked of them, and not have to

worry about the decision making. Decisions were left to management who were able to take the best course of action after careful study, planning, and implementation of pre-defined standards. "Taylor was helping to create the modern white-collar workforce." (Kanigel, p351) Taylor was able to create a system, founded on issues during his lifetime (production, order, efficiency, labor), that could transcend time and be beneficial to age, be it past, present, or future.

4. Widespread Use of Scientific Management

Frederick Taylor died of pneumonia in 1915, just five years after the publication of *The Principles of Scientific Management* brought him world-wide recognition. Scientific management soon became a machine of universal efficiency. The *Principles of Scientific Management* were translated into Chinese, Dutch, French, German, Italian, Russian, and Japanese. (Kanigel p. 22)

Ironically, one of the first countries outside of the US to make widespread use of scientific management was the newly formed Soviet Union. Lenin, who was familiar with Taylor's work, believed that in order to transform the USSR from the nearly feudalistic country that it was under the czars into a major industrial power, a mass educational effort was necessary. In fact, Vladimir Lenin believed that Taylor's methods could be used to manage the entire nation:

"We should immediately introduce piece work and try it out in practice. We should try out every scientific and progressive suggestion of the Taylor System…..The Soviet Republic must adopt valuable and scientific technical advances in this field. The possibility of socialism will be determined by our success in combining Soviet rule and the Soviet organization of management with latest progressive measures of capitalism. We must introduce in Russia the study and the teaching of the new Taylor System and its systematic trial and adaptation." (Wren p.1)

The Soviet Union's famous five-year plans that set goals for industrial productivity and economic growth were a direct result of scientific management principles. (Wren p. 4)

As Taylorism was influencing the growth of the USSR during 1920's, Japanese industry also began adopting Taylor's techniques. One of the first disciples of scientific management in Japan was a man named Ueno Yoichi. In 1919, Ueno was hired by the Lion Toothpowder Company, where he increased the productivity of its packaging department by 20 percent while reducing the area of working space by 30 percent and cutting work time by one hour per day. Uneo became a leading proponent of scientific management in Japan, In the years leading up to the Second World War, many in Japanese industry embraced Taylorism. (Tsutsui p. 446)

As scientific management became more popular in industry during the early part of the twentieth century, it began to influence other segments of society and culture, particularly in the progressive movement. For example, the famous conservationist Gilford Pinochot, who was appointed by President Theodore Roosevelt to head what is now known as the Department of the interior, saw his work as, "efficient management of natural resources." Progressive reformers, who were interested in reducing public corruption carefully, began to study things like the amount of money spent on constructing things like sewer lines verses the amount of people living in each square block. Home economists, many of them advocates of women's suffrage, did time and motion studies of house work in the hopes of relieving some of its drudgery, in the hopes that it would give women more time to educate themselves in order to become better participants in American democracy. A certain type of technical utopianism emerged. (Schwartz-Cowan, p. 212-213)

Scientific management has also spread beyond the scope of the workplace. Most armies around the world employ scientific management. In virtually every facet of armed forces, there is a standard method of performing each job. Enlisted men are drilled time and time again to complete specific tasks in a specific manner until they become routine. Those with appropriate abilities for a task are then made to perform only in that task. Essentially, the job is matched to the worker. Those with keen eyes become snipers or scouts and those with an understanding of strategy are promoted into "intelligence operations."

Along with the utopian view of the scientific management, there emerged a growing public backlash. In 1911, workers at the Watertown Arsenal in Massachusetts, where Taylor was employed, went on strike in support of a worker who refused to allow engineers to time what he was doing with a stopwatch. The incident received a great deal of newspaper coverage and led to Congressional hearings at which Frederick Taylor was called to testify. One of Charlie Chaplin's most famous movies, *Modern Times*, parodied scientific management. The film opens with an image of a clock and shows workers toiling on assembly lines. Chaplin's character is even fed food by a machine, and later gets sucked into and becomes a part of another machine. (McKenna, p. 37)

Today, with the benefit of nearly 100 years of hindsight, many of the Taylorism's shortcomings are glaringly obvious. The "one size fits all" approach to motivation, the consuming focus on efficiency with a near total disregard for quality, and the deaf ear held by management to suggestions by subordinates seems very out-dated by today's standards. But Taylor's scientific approach – the application of statistical techniques to production and efficiency, and his focus on what motivates workers, set the stage for what would come later.While workers in the US and in Europe resented Taylorism with its incentive wage schemes and work specialization and simplification, that was not the case in Japan. Although some of the reasons for this are open to interpretation, many Japanese workers saw

scientific management as elevating their status as "modern factory workers." Scientific management delivered on its promise of elevating wages, and some workers even saw it as an honor to be the subject of a time and motion study. (Tsutsui, Manufacturing, p. 39)

Even with the use of scientific management techniques, there were important cultural differences between the Japanese approach to management and that of their American and European counterparts. Their management style was much more paternalistic, perhaps derived from the traditional Japanese feudal relationship between lord and retainer. There was a strong value among both managers and workers for harmony and cooperation. (Tsutsui, Manufacturing, p. 49)

5. Deming's Approach

After the bombs of World War II destroyed most of Japan's industrial capacity, the morale of workers and managers was extremely low. If post-war Japan were to succeed, a new approach to management would be needed. They found that approach in the teachings of Dr. W. Edwards Deming, an American engineer, statistician and management consultant. During the war, Dr. Deming helped develop and teach statistical control methods in order to improve wartime production. After the war, Deming made several trips to occupied Japan and met with Japanese engineers and managers. Japan embraced Deming's philosophies, and in the years that followed an entirely new style of management emerged. (Nixon, p. 119-120)

Deming's new style of management placed quality and the customer above all else. It also required an entirely new approach between managers and subordinates. Where Taylor saw the customer as wanting quantity, Deming saw them as wanting quality. Deming's approach to motivations was the polar opposite of Taylor's top down approach to management. In its place Deming advocated a team approach where the manager was leader, but where the contribution of each team member was important. Taylor emphasized job simplification, but Deming emphasized job enrichment. Perhaps most interestingly, Deming saw Taylor's financial incentives to workers as being counter productive, because they created winners and losers within the team, creating disunity of purpose. Today in Japan, W. Edwards Deming is viewed as a visionary in much the same way that Frederick Taylor was seen in the US during the early years of the twentieth century. (Swiss Deming Institute chart)

6. Conclusions

Some readers many see Deming's methods of Total Quality Management as being a repudiation of Taylor's scientific management. Such a view is rather short sighted. Frederick Taylor was one of the first people to view management as a science to be studied. He was the first person to study motivational theory, and apply statistical techniques to manufacturing. At a time when labor was cheap, supplies were plentiful, and manufacturing processes were relatively forgiving of quality control issues, scientific management was a tremendous improvement over the old factory systems with its tyrannical foremen and rules of thumb.

All technologies evolve. Jet airplanes would have never come about if they were no piston engine airplanes before them. The work of the Wright brothers was not undone by those who helped develop much more advanced aircraft. Frederick Taylor helped make the modern organization possible. He provided the foundation upon which much of what came after him is built.

Frederick Taylor revolutionized the way we approach businesses and organizations. His theories on using science and statistical fact have become a guideline that many have followed to great success. Is scientific management a perfect system? No. However, one can not deny its contributions to society and measurement of efficiency. It is through these principles that we can clearly set the standard of a straight line, being the most efficient way to travel.

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Shaping the Nigerian Economy: The Role of Women

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Abstract: The thrust of this paper is to see how changing gender identities and roles can impact and influence positive changes in Nigerian economy. There is every need to empower Nigerian women particularly in the present global economy which recognizes the need for individuals to develop their potentials and contribute to the overall development of the nation. The equity aspect implies that labour market participation of women will improve their relative economic position. It will also increase overall economic efficiency and improve development potentials of the country. Researchers world over observed that Should majority of the world's population remain vulnerable to economic, political, legal and social marginalization, the hope of advancing democracy and prosperity will be jeopardized. This study analyzed the gender matrix in economic activities using secondary data obtained from CBN statistical Bulletin. The total percentage of women workers (participants) engaged in one form of activity or the other in the economy is 43.1% as opposed to men's 56.9%. This picture though appears nice statistically, is quite misleading. Key leading sectors in the economy by way of income yield or reward have not been favorable to women in terms of participation. Poverty will be reduced to the barest minimum if the government will take appropriate measures to implement and enforce laws and policies directed towards enabling women have the same rights as Nigerian men.

Keywords: economy; gender; development; women entrepreneur

JEL Classification: M12**;** J16

1 Introduction

Today globalization is no longer a choice but a reality. To achieve and maintain prosperity, all economies must ensure that they are well positioned to take advantage of new opportunities and challenges offered by a global market. There is growing recognition internationally that gender equality is good for economic growth and essential for poverty reduction. (Ellis, 2004)

Where gender inequalities constitute barriers to women entering or participating fully in markets, economic growth and private sector development will be

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constrained with less investment, less competition, and lower productivity (Blackden & Bhanu, 1999). Gender inequalities can also adversely affect the outcomes of trade and macroeconomic policy reforms and their ability to translate incentives into economic development.

The World Bank's Country Assistance Strategy recognizes that "women are more likely than men to be poor, and (more) vulnerable to adverse shocks than men" (World Bank 2004). In the past, women were not given the chance to be what they want to be. Somehow many believe that woman's place is in her husbands' home. Most cultures believe that it is a waste of time and resources training a woman. Most women will end their education in primary school because the fund will be kept to train the male children. Time has shown that educating a woman is no mere waste of time and the families that managed to train their female children smiled better. Women as a powerful force for growth and development, require attention of policy makers. Labour market policies, programmes and initiatives may be developed to ameliorate these situations and promote their participation in the labour market. Empowering women will be making important contributions to the economy as workers and entrepreneurs. However, the relatively low level of female labour force participation rates and the significant regional variation in Nigeria are in conflict with the equity and efficiency goals. These issues; right skills, adequate funding, and timely information will no doubt enhance national productivity.

Nigeria still falls short of the desired result of giving males and females' equal Opportunities and equal access to opportunities to advance socially, economically and politically. Evidence abounds of several forms of gender-based discrimination in gender relations in Nigeria. Gender-based division of labour, disparities between male and female access to power and resources, and gender bias in rights and entitlements remain pervasive in Nigeria. (National Gender. Policy, 2006) It is against this background that this study sets out to investigate the role of women in the Nigerian economy especially their participation in economic activities, to identify factors that hinder their development, to shed light on how women affect and are affected by policies

The 1999 Constitution of Nigeria clearly stipulates gender equality, but customary and religious laws continue to restrict women's rights. The disparities between Nigerian women and men in terms of political, social, educational and economic achievements cannot be separated from some problems which hinder parity between the two groups. Such problems include low participation of women in politics, limited rights in terms of access to resources (land ownership and credit) and opportunities (education, training, occupation), especially for the predominantly Muslim Northern women. There are also more than 250 ethnic groups with various customs, with many, constraining women's full participation in society thereby exacerbating poverty for instance.

2.1. The Gender Matrix in Economic Activities in Nigeria

Table 1. The number of workers classified by industry (unit: the person, %) in Nigeria as at 2008

Industry	Female	%	Male	%	Total
Agriculture and Forestry	7, 029, 237	36.5	12, 207, 075	63.5	19, 236, 348
Fishing	188, 831	1.0	293, 901	1.5	482, 732
Mining	40, 301	0.2	152, 860	0.8	193, 161
Manufacturing Industry	1, 197, 538	6.2	1, 084, 390	5.6	2, 281, 928
Electricity, gas and Water	68, 582	0.4	233, 072	1.2	301, 654
Construction Industry	37, 445	0.2	620, 749	3.2	658, 194
Retail trade	5, 796, 543	30.1	3, 037, 550	15.8	8, 834, 093
Hotel restaurant business	163, 561	0.9	53, 557	0.3	217, 118
Transportation and communication business	96, 300	0.5	1, 308, 250	6.8	1, 404, 550
Finance business	52, 088	0.3	74, 337	0.4	126, 425
Real estate business	187, 984	1.0	226, 263	1.2	414, 247
Administration and defense	477, 061	2.5	1, 352, 562	7.0	1, 909, 149
Education	915, 040	4.8	994, 109	5.2	475, 328
Health and Social welfare	292, 143	1.5	183, 185	1.0	475, 328
Social services	727, 588	3.8	1, 112, 014	5.8	1, 839, 602
House helper	98, 320	0.5	99, 616	0.5	197, 936
Others	16, 113	0.1	50, 325	0.3	66, 438
Total	17, 484, 163	43.1	23.o53, 815	56.9	40, 567, 978

Source: Federal ministry of Women Affairs and Social Development (2008b) Nigeria Gender Statistics Book, Abuja: Government Printed

A look at table one is quite revealing. As at 2008, the total percentage of women workers (participants) engaged in one form of activity or the other in the economy is 43.1% as opposed to men's 56.9%. This picture though appears nice statistically, is quite misleading. Key leading sectors in the economy by way of income yield or reward have not been favorable to women in terms of participation. There are the construction industries where women participation is 0.2% relative to men's 3.2%, transportation and communication business, 0.5% relative to men's 6.8%, and

administration/defense, where women participation is only 2.5% as against men's 7.0%. in other industries, their levels of participation and favorable quantitative terms but negligible when viewed in terms of administrative positions occupied. Of much significance is the extent to which women general participate in matters of decision –making within the Nigerian State. How many of them occupy political positions, executive positions, etc?

However, a much higher concentration of them are found at the lower level Of economic activity and are therefore less likely to influence policy decisions in Their favours. Some people have argued against the increased participation of women in all spheres of economic and political activities. They argue that the biology of sex determines that women are limited to the home and children and must play a subordinate role in the economy, public affairs. They argue that In fact, women are naturally mothers, and their greatest pleasure and true fulfillment lies in maternity, the one out of a few things that women are good at (Deckard, 1983). These kinds of ideologies about women have tended to marginalize women and have belittled women's work in the home and outside the home and therefore women's contribution to economic well being of the home and society.

In order to correct this imbalance, and to overcome the issue of marginalization of women especially given the fact that women constitute more than half the active work force in Nigeria, there is every need that women's voices should be heard and be part of major decision making in the country. In fact, if the human resources of a nation are supposed to be an asset, then it will be unthinkable to marginalize almost half of the labour force, which happens to be women, in Nigeria. Their political rights and participation even though guaranteed under 1999 Constitution , does not reflect their numerical strength in the country. They play a minimal role in the area of politics. This is not because they are incapable, but because many of them lack education and economic empowerment compared with their male counterparts.

3. Government Policies on Gender Issues

There had been several policies , programmes and projects designed to assist women, especially low-income women in their bid to achieve economic independence in all spheres of their lives and to improve their participation in public life and the decision making process. The federal government established the National Economic Empowerment and Development Strategy (NEEDS) in 2004 which is largely a poverty reduction strategy document. It contains 4 targeted areas: (1) creation of wealth, (2) job creation, (3) poverty reduction, and (4) value-added direction. Then by 2006, came The National Gender Policy which is a key policy document that supports women's participation in political and public life. One of the objectives of this Policy was aimed at achieving minimum threshold of

representation for women in order to promote equal opportunity in all areas of political, social, and economic life of the country.

By 2007, the Nigerian Government enunciated a Seven Point Agenda, a policy document which was followed by Vision 2020 in 2010. All of these initiatives include efforts to address the gender gap, gender equality and women's empowerment. The measures to be adopted to achieve these goals were: Ensuring equitable representation of women in all aspects of governance. The affirmative action of proportionate representation of not less than 30% representation is to be pursued where feasible. Establishing scholarship schemes at the secondary and tertiary levels in order to expand educational opportunities for female students where necessary and expanding a programme on non-formal education through sustained advocacy education e.g. adult and vocational education to cater for women beyond school age.

The challenge of gender parity in Nigeria is less in the provisions of the constitution but more in implementation. Nigeria still falls short of the desired result of giving males and females equal opportunities and equal access to opportunities to advance socially, economically and politically. Evidence abounds of several forms of gender-based discrimination in gender relations in Nigeria. The political arena in Nigeria is such a system where money rather than merit appears to determine who gets what in the case of elective positions. The males, having been exposed to income yielding opportunities earlier than women, have been monopolizing the political field. Though the constitution guarantees equal right, to political offices women are still lagging behind. When women compete with men for access to political power, they do so on the terms already established by men for competition among themselves. The success of women in politics like that of any group cannot be achieved within a system without displacing or replacing the existing elite. And a change in values which cannot occur independently in the socio-economic as well as political relations, without clear involvement of women in the political process through holding of various offices (positions) and make known their own ambition through consciousness and effective involvement in the political scene a condition which if absent allows or facilitates the political elites dominated by and govern women remain the same.

4. Challenges

There are many challenges facing women which must to be addressed in order that they will rise to their rightful position in the scheme of things both economically and political.

Female poverty rate is particularly high in Nigeria because of race, religion and social-political backgrounds. Many women in Nigeria still lack formal education

compared to their male counterpart. The implementation of NEEDS and SEEDS has not improved the situation of Nigerian women who bear the brunt of inequality.

The laws enacted especially in the Northern states of the country to improve the

Opportunity of the girl child to education is seriously hampered by lack of effective enforcement and monitoring mechanisms. The challenges facing Women in economic activities appear in diverse forms: the cost and availability of finance and access to the funds; human capacity to handle business, and constraints for many firms in Nigeria and business loans usually require collateral culture. The recent Work on financing behavior by (Okoyeuzu, 2010) find that the cost of finance was a major constraint to firm investment in Nigeria due to lack of collateral and restricted access to formal credit, firms have primarily relied on informal sources such as family, friends and traditional moneylenders. These sources can have high interest rates, or they may not always have the funds available for making loans. The argument for addressing these issues is that good economic and financial management is necessary to create a conducive environment for the private sector to flourish and for successful use of development assistance.

Involvement of women in decision making both at federal and state level in Nigeria is still very negligible. There is every need to encourage and assist more women gain access and be part of decision making bodies. Women have great potentials necessary to accelerate social and political development and consequently transform the society into a better one. Nigerian women have been contributing their quota to the development of the nation; however, their potentials have not been fully tapped due to some constraints.

Increasingly, there are more women in managerial positions in various establishments. This gives a prospect for more positions for women at top levels in the future. A few establishments that have been privileged to be helped by women in this country stood out in terms of output. The transformation of National Agency for food and drug Administration control (Nafdac) by Professor Dora Akunyili cannot be over emphasized. The professor was able to stand up and say no to all fake drugs amidst all challenges. The reorganization of the Nigeria tax system and the tax management bodies from a low revenue generating parastatals since the organization became headed by Ms Ifueke Omogui among others, have stood women out as agents of transformation, in honesty and transparent manners, if given the opportunity. Obiageli Ezekwesili is a thorough woman shaping world economies as the managing Director of World Bank. Her position attests that what a man can do , a woman can do better. Women has less ego. These were the words of Dr. Ngozi Okonjo-Iweala, who was nominated for the World Bank topmost seat by Angola, Nigeria and South Africa. She has demonstrated competence in tackling economic problems in developing economies and Africa. She made the Paris Club –a group of bilateral creditors, to pay $12 billion of Nigeria’s external

debt in return for an $18 billion debt write-off when she served as finance minister in the administration of former President Olusegun Obasanjo. Most women have excelled as effective managers.

In general women have some distinctive qualities which they bring to bear on any organization they are managing that enables them excel. (Pantiye and Garbe 1991) identified the common features of Nigerian women as(a) tolerance and endurance(b.) high need for association, frankness in matter they considered serious, emotional stability and (c)stubbornness to a belief. (d) Moral decadence and national instability). Most of these characteristics of Nigerian women are needed to bail Nigeria out of its present predicaments

If women are encouraged and given opportunity, they would help manage the country out of its present economic quagmire.

5. Impact of Women Labour Activity in the Economy

Nigerian women have made astounding impacts in Commerce, Industry, Banking, Education , Administration as well as Politics. How does the woman make her impact felt in issues of national development today? One critical requirement is formal education. It is a popular saying, that when you educate a woman you educate a nation. No educated woman will allow her children or wards to attain an educational level less than hers. An educated woman is less dependent on people and will surely lead others to the right direction. When education is achieved, skill are developed for active participation in all aspect of life in the society. Essentially, formal education is the possession of the right skill and knowledge in a profession. Though women constitute half of Nigeria's population, established restrictive practices and constraints however had not allowed them to take advantage of their numbers to significantly influence the decision making processes. Women should be provided with maximum opportunity so that they could play their role in growth of GDP.

One of the most widely recognized contributions of women's work has been its positive impact in reducing poverty via agriculture. The main concern of governments has been to change the way the market (including the labour market) functions and to find ways of promoting productive development and growth. Unpaid female work has received no consideration other than a bare acknowledgement of its existence.

6. Conclusions and Recommendations

From the fore going, it is obvious that women are a resource waiting to be tapped to promote the efficiency of free market policies and to counter the short fall in access to social policies.

The contribution of women entrepreneurs to economic activity and employment has increased over time. Women entrepreneurs have created a variety of new ventures and contributed a lot to the development of a range of services and products. In Nigeria, women entrepreneurs contribute to the economic development visibly in the formal sector that is usually confirmed to the economic development visibly in the informal sector that is usually confirmed to micro-enterprises engaging in businesses like trading and small-scale manufacturing since they have less access to formal education, less access to finance, gender inequity etc. consequently, they have low participation in the formal sector.

There should be need to organize training for women groups on basic rudiments of running small scale business and how to form these businesses, risk taking, managing bank facilities and how to source facilities from banks. The main agenda of these groups will be to initiate skills development centers and cooperatives, particularly in agriculture. This Skills acquisition centers should be established in rural areas for women to learn how to use modern agricultural tools, as the majority of the female Nigerian population is involved in agriculture. Women can form agricultural worker collectives where they can pool resources together to collectively acquire land and modern tools for farming. Collectives make it easier for women to access funding and training.

There is need for state houses of assembly to enact and implement laws on widow hood right to minimize the challenges widow face in the event of the unfortunate loss of their spouses.

Existing laws, regulations, customs, and practices that constitute discrimination against women in land shall be outlawed and appropriate legislation established to ensure effective protection of women against such acts.

There is need for the government to take appropriate measures to implement and enforce laws and policies directed towards enabling women have the same rights as Nigerian men.

There should be a review on the aspects of the Constitution to promote the principle of gender equality between men and women. Female parliamentarian development policies had been introduced to achieve poverty reduction; nevertheless, all these strategies have not yet managed to make rural and urban households food self-sufficient.

The poverty situation in Nigeria seems to be more severe now than before. We recommend that, empowering the women is a positive step to reduce poverty to the barest minimum.

Presently in Nigeria, the president accepted the provision of National Gender policy that is, given 35% of appointive positions to women. It is possible some of the female candidates who contested the 2011 elections in Nigeria were rigged out by the men. Since such is the case, it is very ideal that the equation be balanced by giving more female candidate appointments should make effort to see that this policy gets fully implemented and over time strive to increase the percentage to at least 40% as a way of given voice to more women. That is empowering them politically and financially to contribute positively to the growth of the economy because it is only when they are given a chance that they can prove their worth. Amending the constitution will not solve the problem. Only a prolonged political struggle for the rights of women can ensure that the imbalance is redressed. Political rights are an outcome of a political struggle.

There is no doubt that transformation of the Nigerian economy will proceed at a faster rate if more women are engaged in administrative and related sphere of activity. women in Nigeria represent half of the population and hence should be allowed a fair share in decision-making and the governance of the country. There is a Chinese saying that "women hold up half of the world". Yet, and regrettably so, women have not been accorded their due recognition in the global and national scheme of things.

In conclusion, in order to appreciate the role of women in nation building, a statement by the American secretary of state, Hillary Clinton, is most instructive. She said: "What we are learning around the world is that if women are healthy and educated, their families will flourish. If women are free from violence, their families will flourish. If women have a chance to work and earn as full and equal partners in the society, their families will flourish. And when families flourish, communities and nations will flourish.

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The Impact of Financial Performance upon the Social Responsibility of Romanian SMEs – Point of View

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Abstract: The aim of this paper is to assess the different approaches regarding the impact of social and environmental responsibility upon the financial performance. Most of the authors consider there is an impact and mostly only the ways of evaluate it or report it is different from an approach to another. Moreover the literature commonly separates the discussion regarding the social responsibility from the environmental approach. The study developed shows at least a variation of one of the many approaches and shows the specificity of Romanian business environment.

Keywords: social responsibility; financial performance; environmental responsibility

JEL Classification: O16; P34

1 Introduction

All the enterprises produce both positive and negative effects during their economic activity no matter of size or industry. In environmental terms there is a fact that SMEs around the world produce 60 % of the carbon emissions (Marshall, 1998) and 70 % of total pollution (Smith & Kemp, 1998). That is why regardless the size or industry the businesses should be accountable of their actions. Social responsibility centers on making firms accountable of their negative impact upon all stakeholders (Sethi, 2003). Moreover The World Business Council for Sustainable Development stated the CSR as: "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large" (WBSCD, 1999). A balance between shareholders and other stakeholders should be realized in this respect (Perry & Towers, 2009).

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The studies confirmed a positive relation between the social responsibility (Cochran, Wood, 1984; McGuire et al., 1988; Waddock, Graves, 1997) or the environmental responsibility (Hamilton, 1995; Klassen & McLaughlin, 1996) and the financial performance. Again is the case of big companies the literature discusses and mostly ignore the small and medium enterprises adaption of the matter.

Some studies determined a double positive influence both of the environmental performance upon the financial performance and of financial performance upon the environmental one (Nakao&All., 2007). The duality of the problem is partly explained by the fact that those companies certified for an environmental management system (ISO 14001) benefit of an improved market image and value. (Wahba, 2008)

We have some limitations. One is the fact that the individual attitude (regarding the environment and the intergenerational solidarity) is mostly irresponsible (Bazina & Balleta & Touahrib, 2004). These limitations came together with the system of motivations and incentives, many of them that may have a fiscal dimension or public policy related as well. Lynes and Andrachuk (2008) structured the main motivations as financial benefits, competitive advantage, image enhancement, stakeholder pressures and desire to avoid or delay specific regulatory constraints (Bonnafous-Boucher & Pesqueux, 2005). Although the set is considered as a general pattern for every enterprise there are different ways to assess these motivations. For example the financial motivations are achievable in short and medium term according to Kiernan (2001) or Hart (1995) through eco-efficiencies. The SMEs has their own characteristics regarding the motivational system as well as the way of action and responsibility involvement and also a more personal way of managing its activities including those with social and environmental impact.

It is a fact the issue of impossibility for transferring the CSR from big companies to small and medium enterprises (Welford & Frost, 2006) due to the sum of limitations related to this kind of businesses. This is why the need for dimensioning the concept of responsibility and adapting it to the scale and characteristics needed. It is also a fact that the Romanian small and medium entrepreneurs wish to involve their businesses in such activities. They also wish to learn more about the benefits of the responsible behavior (Nuță, 2012). The necessity of a motivational matrix for the SMEs is given by the specific behavioral characteristics and resource limitations (Towers & Burnes, 2008) of this type of businesses. It is also generally known that larger firms have more financial resources to implement CSR than smaller firms, who are less able to overcome obstacles such as lack of resources and skills, lack of awareness of stakeholders' demands and inefficient production techniques (Welford & Frost, 2006). The financial resources insufficiency is one of main obstacles and a way to overcome this issue is knowing how much of the profits can a SMEs sacrifice for responsibility in order to achieve its non-financial

targets and at the same time keep its financial performance at highest level possible. It is also helpful the fact that SMEs are considered to be comparatively more innovative than large corporations as well as being more amenable to undergoing evolution and change (Storey, 1994).

2 The Assessment

For the correlation model we chose a Romanian SME's. We assess the financial performance using the ROA for the last twelve years. The trend is constantly positive for the first seven years then has a decline (the economic crisis influence) and at the end of the period grows again. The SME constant growth and the economic sector growth determined us to use it for our study. For describing the social responsibility we have assess the employees comfort and work security related costs. We have also assessed the bonuses evolution during that period of time to see if the influence of the enterprise welfare affects its responsible behavior or the salary package offered to its employees.

So the first assumption is that the financial performance of the Romanian SME has a direct positive influence upon its social responsibility described by the work place comfort and security of its employees.

The dependent variable is the cost for ensuring the employees comfort and work security as a percentage in total costs (the responsibility cost: cos_resp) and ROA as an independent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,387[a]	,150	,065	,10377

a. Predictors: (Constant), ROA

b. Dependent Variable: cos_resp

The correlation coefficient (R) shows a weak connection between the two variables. R square shows a little proportion of explanation upon the dependent variable trend given by the regression model. So the regression model does not explain a relation between the two variables. Based on it the cost of responsibility is not determined in this case of the financial performance.

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	,150	1,764	1	10	,214	2,681

b. Dependent Variable: cos_resp

The second assumption is that the enterprise welfare determine for a part of this welfare to be transmitted to its employees by the salary package and other economic benefits. The good economic run permits the entrepreneur to raise the salary or give bonuses to its employees. But this is not necessary an expression of a responsible behavior. Could be a contractual obligation or as a result of syndicalist pressures. Anyway a higher salary does not necessary prove the enterprise responsible behavior regarding its employees.

The independent variable is again ROA for describing the financial performance that permits the enterprise to have an amount of welfare to distribute. The dependent variable is the percentage of bonuses in the salary fund in the given period.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,863[a]	,745	,719	,46128

a. Predictors: (Constant), ROA

b. Dependent Variable: bonus

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	,745	29,196	1	10	,000	1,162

b. Dependent Variable: bonus

The correlation coefficient (R) shows a strong connection between the two variables and the R^2 indicate that ROA explains a lot of the percentage of bonuses

evolution during the given period of time. Given the value of Sig the assumption that there is no relation between the two variables is rejected and accepted our initial assumption that the evolution of ROA explains the trend of salary bonuses.

ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6,212	1	6,212	29,196	,000[a]
	Residual	2,128	10	,213		
	Total	8,340	11			

a. Predictors: (Constant), ROA

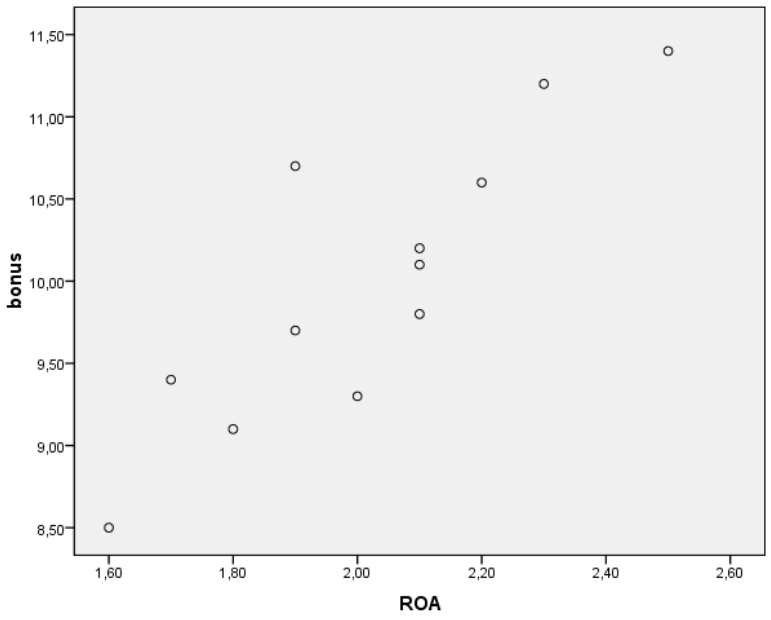
b. Dependent Variable: bonus

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4,063	1,107		3,670	,004
	ROA	2,944	,545	,863	5,403	,000

a. Dependent Variable: bonus

The correlation model is Y = 2,944X + 4,063.



The scatterplot also shows the linearity of the model and a good correlation between the two variables.

3 Conclusion

The literature shows evidences that the welfare of the enterprise can attract a more responsible behavior of it. Many shown there is a bilateral correlation between the financial performance of firms and their social responsible behavior. That social responsibility attracts better market value and economic benefits from it. Part of the economic benefits later transforms in sources of reinvesting in good image by the meaning of social responsibility tools.

Our study reflects a way of action and an attitude. Many Romanian entrepreneurs under the pressure of the forces on the labor market regard the salary package (including the bonuses) as their main obligation regarding the employees neglecting aspects of work safety and comfort. The attitude is not only accepted but encouraged by the employees that see the salary mostly their only right at work place. The firms holders invest in work safety and comfort only in the regulation levels and not above.

Our future research will investigate similar aspects but extending the study and working with national panels of small and medium enterprises.

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Group Cohesion and Performance: A Bank Analysis

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Abstract: This paper aims to make a contribution to understanding the role of group cohesion and group performance in financial organizations in Romania. The analysis is based on a sociological research conducted in an economic and financial organization from Bucharest. The results are rather illustrative, but they can easily find the correspondent in other Romanian financial organizations. Based on quantitative data obtained from organizational survey, the general goal of the research is to contribute to a better understanding, exploration and explanation of the existence of group cohesion and its importance on the organizational performance. In this regard, the study is answering to the following questions: "How important it is to have high group cohesion for as the performance of an organization to grow?" and "How well does the group carring out its tasks and under what circumstances can we optimize its performance?" The findings of the study could be utilized for: 1.Identifying the organizational performance trends in the studied companies; 2. Identifying of levers as to help managers to direct staff's potential towards certain objectives established according to the organization's strategies and policies; 3. Prevent the obstacles and the difficulties in obtaining group performance at individual and group level.

Keywords: group cohesion; group performance; organization

JEL Classification: C01

1. Introduction

Over the years, the group cohesion-group performance relationship has been studied extensively by many researchers. Many sociologists have attempted to explain this relationship and some researchers have been unable to find a systematic relationship between performance and group cohesion (Stogdill, 1972; Steiner, 1972; Mitchell, 1982). There are studies which sustain that a positive relationship between group cohesion and group performance exists (Evans & Dion, 1991; Mullen & Copper, 1994). Our conducted research is aiming to analyze the level of cohesion and performance within a financial organization. The article begins by introducing the conceptual elements of the theoretical pattern developed

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by Carron et al., (1985) on group cohesion. The article continues by presenting the concept of organizational performance and its measurement methods by Hackman, by presenting the hypotheses and the methodology used to validate/ invalidate these hypotheses. After that, attention is focused on the presentation of the findings. The article ends with conclusions.

2. Literature Review

Cohesion is an essential property of social groups that expresses itself through solidarity among group members, through cooperation to achieve compliance group activities by reducing interindividual differences, reaching up to the adoption of highly standardized behaviors. The group cohesion is stronger as there are ways of communication between members, a consensus over group's interests and opinions and the group's success in its field of action (Bonciu, 2000). A high level of social cohesion within a group generates a high level of satisfaction, comfort and a sense of security. If the informal rules of the group support the organization's objectives, the cohesion is an important positive factor of the organizational performance. If the group is indifferent to these objectives, the cohesion is an important negative factor of the organizational performance. A cohesive group is characterized by a high degree of consensus, by adherence to common objectives and cooperative relations (Carron, 1980). Cohesion is manifested through a high-level integration of individuals within the group. A group with a high cohesion exercises strong pressure to eliminate conflicts and tensions. The more cohesive the group appears to its members, the stronger will be the pressure to eliminate deviant behavior. Cohesion produces a high degree of conformity, and the group members will begin to adjust their opinions and behaviors according to group's norms.

Carron (Carron et al., 1985) consider that the various definitions of cohesion can be categorized into two major groups: (a) group integration ("a member's perceptions of the group as a whole"); and (b) individual attraction to group ("a member's personal attraction to the group") (Carron et al., 1985, p. 248). Furthermore, Carron et al. (1985) asserted that both group integration and individual attraction to group could be focused on either the task or the social aspect of the group. Thus, cohesion was conceptualized as consisting of four unique constructs: (a) group integration task, (b) group social integration, (c) individual attraction to a group-task and (d) individual attraction to a social group (Carron et al., 1985). Group integration task is defined as the perception of the team to perform the tasks. The individual attraction to a group-task describes feelings of personal involvement in group tasks, while the individual attraction to a social group reflects the personal feelings about social interaction inside the group.

Like cohesion, group performance is also a multidimensional concept (Gist, Locke, & Taylor, 1987; Hackman 1990). Hackman's (1990) three dimensional model of a

group performance considers a group's contribution to its embedded organization, to itself, and to its composite members. The author defines a group's performance starting from these three corresponding levels: (a) "the degree to which the group output meets the standards of quantity, quality, and timeliness" of the organization (productivity); (b) "the degree to which the process of carrying out the work enhances the capability of members to work together interdependently in the future" (system viability) and (c) "the degree to which the group experience contributes to the growth and personal well-being of team members" (professional growth) (Hackman, 1990, p. 6-7). From an organization's perspective, an effective work group should not only enhance the overall effectiveness of the organization but also be able to sustain its own existence (system viability) and assist the professional growth of its members. Because the group performance has a pragmatic valence (it can be optimized by monetary gains), analyzing and preparing reports at the organization level in order to specify the performance deficiencies and their remediation proposals, is not a common activity in organizations. This thing is also due to the increased level of difficulty and inability to estimate accuracy.

3. Methodology

This research aims mainly to study the cohesion within a financial organization and to observe if the group cohesion is a stronger positive predictor of organizational performance. Thus, we wanted to study the impact of the labor productivity, organizational stability and professional development in a financial organization on the individual attraction to group-task and group integration task.

The sociological survey was conducted during January-March 2012, on a sample of 250 participants. Participants were informed that an independent researcher was interested in collecting research data and an informed consent was obtained from the employees who participated in the study. The investigative technique used in this research was the questionnaire, defined as a technique and, also, an investigative tool consisting of a set of written questions, logically and psychologically ordered. The questionnaire used had multiple answer questions with a 5-point scale for a better integration in SPSS (so that it can be calculated correlation coefficients). To exclude the operator's interference in choosing the answers, the questionnaire was auto-administrated. Also, for the research accuracy, the participants completed questionnaires during the program, around 11 am. The study was conducted in one organization that is activating in the economic area and it is providing financial services. The organization is divided into five departments as follows: Documentation; Accounting; Public relations; Sales; Human Resources and IT and it have 325 employees. The number of the respondents is 250.

3.1. Hypotheses

The specific hypotheses tested in this study are as follows:

Hypothesis 1: Task cohesion strongly influences the organizational performance.

Hypothesis 2: The stability of the organization is a stronger positive predictor of the group cohesion.

Hypothesis 3: Task cohesion is a stronger positive predictor of the group productivity.

Hypothesis 4: Group cohesion strongly influences the organizational performance.

3.2. The Research Limitations

This research does not claim to be exhaustive and does not have the ambition to be an absolute accurate one, although this issue was among the principles of developing methodologies and analyzing results. The limits of this research required objective main factors such as a. employees offered a sincere response. Although the results of this questionnaire had no direct impact on employees, it is possible that they did not answer these questions honestly. b. group management. A powerful influence on a company's performance is the type of management adopted in managing a company. A disinterested manager, who doesn't appreciate properly its employees and their needs, has a negative impact on the company's productivity and performance. c differences in employees training and education. These elements can affect the group performance because they provide information about the "quality" of the employees.

4. Data Analysis

In order to place the hypothesis in a specific context, we need a description of the group who focused on measuring cohesion and group performance, formulated after data collection and observation of the group statistics descriptors.

Table 1. Group statistics descriptors

	N	Minimum	Maximum	Mean	Std. Deviation
Performance	250	28.50	36.00	32.0455	2.2196
Cohesion	250	27.00	33.00	29.3182	1.6729
Valid N (listwise)	250				

As it is shown in the table, the median performance is 32.0455 with a standard deviation of 2.2196, suggesting a high degree of group performance. Also, the

median cohesion is 29.3182 with a standard deviation of 1.6729, so assigning a very high degree of group cohesion.

As a first conclusion, the studied group is very cohesive and at the same time, a very productive one. Our approach will focus on the extent to which a relationship exists between these two characteristics of the group.

Hypothesis 1 (Task cohesion strongly influences the organizational performance.) was validated. The correlation coefficient between labor productivity and task cohesion at the group level has a value of 0.373, positive value, above a threshold of representativeness, in this case 0.05. Moreover, in addition to relatively strong correlation between these two variables, independent variable (task cohesion) and dependent variable (productivity) was calculated the simple linear regression coefficient β. It has the value 0323, which implies that the task cohesion of the group is a strong predictor for the group productivity. By proving this hypothesis we can eliminate two of the four categories that can be placed in our group. Thus, we can place the group in one of the following: cohesive-productive, unproductive incohesive. Another conclusion that emerges from the confirmation of the hypothesis is that the overall performance of the studied group is largely determined by the cohesion of its members in the situations where they all need to perform the same task.

Table 2. Relationship between task cohesion and productivity

		PRD	COEZSR	
PRD	Pearson Correlation	1.000	.373[1]	
	Sig. (1-tailed)	.	.043	
	N	22	22	
COEZSR	Pearson Correlation	.373	1.000	
	Sig. (1-tailed)	.043	.	
	N	250	250	

Hypothesis 2 (The system viability is a stronger positive predictor of the group cohesion.) was partially proved. The correlation between system viability and group cohesion is positive but very weak, with a value of 0.064, with a representativeness threshold of 0.05.

[1] Correlation is significant at the 0.05 level.

Simple linear regression coefficient β, calculated for the system viability as dependent variable and group cohesion as independent variable has the value 0.062, which suggests weak influence of the system viability by the social cohesion. Thus, the system viability of the studied group is determined by other variables and not by group cohesion. One of these variables may be the management, financial incentives etc.

Table 3. Relationship between system viability and group cohesion

		COEZS	VS
COEZS	Pearson Correlation	1.000	.064
	Sig. (2-tailed)	.	.778
	N	250	250
VS	Pearson Correlation	.064	1.000
	Sig. (2-tailed)	.778	.
	N	250	250

Hypothesis 3 (cohesion is a stronger positive predictor of the group productivity.) has been validated. Thus, the correlation between the level of task cohesion and participants' opinion regarding the group productivity has the value 0.373. This value can be interpreted as a good knowledge of the subjects concerning the performance of the group where they belong to. Moreover, we can conclude that there is a strong link between group cohesion when the group members have to accomplish a task and their own perception of the performance level achieved by the company. For the task cohesion as a dependent variable and the participants' opinion regarding the group productivity as an independent variable on group productivity, simple linear regression coefficient β value was 0.352. In other words, task cohesion level of individuals is strongly influenced by the opinion of individuals regarding the group productivity, which leads to the strengthening of the cohesion level inside the group by its perception as a stronger predictor of group performance. It can be, thereby, created a halo effect (extrapolation of positive characteristic/perception across the whole group) with positive effects for the organization.

Table 4. Relationship between cohesion and productivity

		COEZSR	PRD
COEZSR	Pearson Correlation	1.000	.373
	Sig. (1-tailed)	.	.043
	N	250	250
PRD	Pearson Correlation	.373	1.000
	Sig. (1-tailed)	.043	.
	N	250	250

Hypothesis 4: (The group performance is a stronger positive predictor of the group cohesion) has had the most problems of measurement and selection of appropriate and representative coefficients for interpretation. In the first stage there has been established a strong correlation between these two variables, cohesion and performance, the correlation coefficient being 0.259. This shows there is a strong link between cohesion and performance inside our studied group. In order to identify the influence between these two variables, we considered each variable a dependent variable and also an independent variable for calculating the coefficient B. The coefficient B, which is different from the coefficient β, has the role to measure, when the group cohesion is a dependent variable and the performance is an independent variable, the cohesion expected per subject for each unit (in the generic sense) in addition of the performance level per subject. In this case, when the group cohesion is a dependent variable and the performance is an independent variable, the coefficient B is set to 0.195, which means that there is a low impact of the group performance on group cohesion. In the present instance, the perceived group performance gives to the group members an identity and increases the subject's desire to be a member of this group and to remain one. However, the level at which this happens is not large, as it is reflected by the coefficient B.

Table 5. Relationship between group cohesion and group performance. Group cohesion -dependent variable

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	21.978	8.414		2.612	.017
	COEZIUN	.343	.287	.259	1.198	.245

The calculation of the linear regression coefficient B for the group cohesion as an independent variable and the group performance as a dependent variable and its comparison with the coefficient B has led to definite proof of the Hypothesis 4.

Table 6. Relationship between group cohesion and group performance. Group performance -dependent variable

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	23.067	5.229		4.412	.000
	PERFORM	.195	.163	.259	1.198	.245

Thus, the calculation of the linear regression coefficient B of 0.343 shows that the group performance is influenced by the group cohesion. In other words, performance is strongly influenced by group cohesion and teamwork and the existence of an "extra social value" of the work performed by members of the group has a strong impact on overall group performance and productivity.

5. Conclusions

The studied group is very cohesive and in the same time very productive. As shown in the analytical approach, the group cohesion is a stronger positive predictor of the group performance. Also, the group cohesion when the group's members have to face a task is strongly influenced by the group members' positive opinion regarding the group productivity is creating the premises for strengthening the feeling of being proud to belong to the group.

In addition, (as shown in the validation of hypothesis 4) a group performance is not a stronger positive predictor of group cohesive, while a cohesive group is a stronger positive predictor of group performance. Thus, we identified a strong link between the level of cohesion and group performance, thing that allowed us to place it in the cohesive-performance category. The group cohesion strongly influences performance but not necessarily in the right direction.

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Aspects Regarding the Efficiency of Technology Transfer from the National Research Institutes towards the Industry in order to Accelerate the Development of Romanian Economy

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Abstract: Currently, Romania is faced with problems regarding closing the deep economic gap between it and the rest of the EU members. In addition, Romania is concerned with overcoming the difficulties generated by the current economic crisis. The technology transfer of the research results from the scientific field towards the industry is one of the main leverages for the economic development, the innovation development and the competitiveness of the companies. At this point, Romania marks a very low transfer rate of technology between the research institutions and the economy. This is why, increasing and accelerating this rate becomes a vital element for the Romanian economy. The national research institutes are one of the most representative institutions of the national research and development system. With a high capacity of generating scientific results specific to certain national areas of expertise, their potential of transfering technology should be exploited and made more efficient. This paper presents a synthesis of the written works regarding the technology transfer, its role in the economic growth and the factors influencing its efficiency. The paper performs an analysis the current state of the national research institutes and formulates hypotheses regarding the causes leading to the low technology transfer rate, making suggestions on further research studies on how to turn this important process into a more efficient one.

Keywords: economic growth; innovation; research and development; organizational processes;

JEL Classification: O32, L20, M10

1 Introduction

There is a strong relationship between scientific research and economic growth. The economic development due to the research and innovation activities consists mainly of three stages: (1) performing scientific research in order to produce new

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knowledge that can be transferred in the economy, (2) adapting and transferring these results in the economy market in the form of innovative products and services, (3) disseminating such research and changing the economy behavior of the companies and consumers – who end up accepting and using them when noticing their significant advantage (ANCS, 2009). Thus, the concept of *technology transfer of scientific results* defines a creative concept that generates economic and social value. According to the trends established by the Lisbon Strategy at the EU level, science and technology are seen as key instruments for the economic and social further development. The technology transfer is essential for the increase of company innovation and technological enrichment and it is one of the main economic growth factors at the regional, national and international levels. The efficient deployment of technology transfer brings major benefits to all stakeholders (European Commission, 2007).

The companies that capitalize the values of the research, increase their competitiveness and their competitive advantage. The research entities, as knowledge suppliers, can increase their income and can obtain a higher financial autonomy in order to run their entrepreneurial and research activities. They can also enjoy other collateral advantages, such as attracting sponsored research contracts from certain companies, the possibility to hire and maintain high specialized and top researchers in their staff (Phan and Siegel, 2006).

Yet, turning scientific research results into new products and technologies is a complex, large-scale process, which involves the participation of a high number of stakeholders from the scientific and industrial fields. This process presents several risks and uncertainties with respect to success, it involves many resources and the results are not easily quantifiable. The European Commission Bulletin (2007) regarding the improvement of knowledge from the research institutes towards the industry within the European Union, highlights that it is imperative that an efficient collaboration between the industry and the scientific research must be achieved so that their common goal is the maximizing of the economic and social benefits that an innovative idea could bring (European Commission, 2007).

2 The Role And Importance of Technology Transfer in the National And International Context

The current globalization market trends at the worldwide level, economic crises, the limitation of certain natural resources, creating economic alliances such as the European Union; all these demand the stakeholders to find efficient solutions. Innovative ideas, with a high degree of novelty become in this way essential so that the companies secure a competitive advantage against the competition and maximize their performances.

There are certain theories that explain why the innovation capabilities and technology transfer of a country, region or economic entity heighten the economic growth in general and trade (economic exchange) in particular. Thus, the theory of the product life cycle developed by Raymond Vernon, shows that the main reason for international trades is the technological advantage incorporated in innovations. Because the access to a certain innovative technology incorporated in a product is limited, innovation is spread gradually along the product life cycle, from the innovative country to the imitating one (Hill, 2007).

The theory of technology gap states that international exchange is possible due to the technology gaps between countries, which make certain countries capable of securing a competitive advantage thanks to their high capacity of research and development, technology transfer, assimilation of innovative technologies and innovation. The theory of scale production claims that winning (and implicitly the competitive advantage) is due to the country's high specialization and its capacity to reduce costs per unit (Gurbiel, 2002).

The process of technology transfer disseminates innovative technologies and it is influenced by the stage of economic development and the absorption and innovation capacity of a country. Currently, at a worldwide level there is a significant difference between countries with respect to the economic strength, their innovation capacity and the growth potential provided by the technology transfer process (Nicolescu and Nicolescu, 2011).

To illustrate the strong connection between the technology transfer and the economic growth, one powerful example is the developing method of some of the Asian countries, which, within a relatively short period, have managed to move from technology importing countries to technology developing and exporting ones. Korea, Taiwan, Hong Kong and Singapore have evolved in just three decades, ending up being high economy powers based on technology production. The massive acquisition of technology by means of an efficient economy transfer and using efficiently this technology in production processes, all have played a key role in their long-term development and in gaining an international competitive advantage. Strict policies regarding imports have allowed these countries the gain of technology by various technology transfer means. This in turn has been developed by means of inner research and development abilities in collaboration between the industry and public and private research centers (Gurbiel, 2002).

Another relevant example is Finland, which in just 10 years became the most innovative country within the EU and this led to a strong increase of its GDP. Owning and accessing state of the art technology affects the position of a country in the international classification according to competitiveness. Without having its own innovative technologies, long-term competitiveness can generally rely on technologies at hand and on efficiently using major technologies. This is the

special case of several central and East European countries, which have a major gap from the developed countries in terms of competitiveness.

Generally, the transfer of scientific results in the economy amplifies innovation within companies, and this attracts an increase in their competitiveness. The competitive advantage of a company or an economy depends on its capacity to innovate and to improve the quality of its products and services offered in a market in a state of efficiency and effectiveness (Groumpos, 2009).

3 Technology Transfer – Concept and Entities Involved

In the absence of a standard, universally accepted definition for the technology transfer, several definitions try to capture a very complex reality. The economists and management specialists tend to define technology transfer based on the knowledge that is at the foundation of the transfer, emphasizing the stages of this process and its influencing factors. Sociology tends to focus on the connection between technology transfer and innovation, while anthropology look at the technology transfer from the point of view of the climate and the cultural changes it determines (Bozeman, 2000; Oliveira şi Teixeira, 2010).

The technology transfer is a process run by universities and research institutes or by any socio-economic entity by which a knowledge system (patented or not) is transferred towards socio-economic entities that are capable to materialize such knowledge in their benefit or for the benefit of the society (Brad, 2010). The Federal Laboratory Consortium for Technology Transfer defines technology transfer as "the process by which knowledge, facilities or existing capacities, financed from public research and development funds are used to satisfy public and private needs" (***, 2011).

Thus, the technology transfer is viewed (in its most general terms) as the transfer of research results from the research units (universities, research institutes) towards companies or other social components. The entities participating at this technology transfer aim to accelerate the usage of the research results in the economy, involving the transition from invention to innovation and its successful spread on the market, thus creating added value (Badea, Radu, Mocuţa, 2008)

Taking into account the fact that the process of technology transfer is based not only on technology in itself, but it can also involve silent knowledge that the entity transfers and holds thanks to its experts and specialists, the literature often uses the term knowledge transfer, which depicts a comprehensive form of technology transfer. The modern period is called the age of knowledge and intellectual value and highly appreciates knowledge and its usage in order to obtain economic value.

Basically, the technology transfer process implies having two or more entities in a state of cooperation (OECD, 2004; Foray and Lissoni, 2009):

1. The public or private research and development unit that is the knowledge source and holds the transfer object;

2. The transfer agent that intermediates the process and that can or cannot be related to the unit that transfers technology;

3. The unit that receives and adopts the scientific result (the object of the technology transfer).

Apart from the research and development institutions, companies from the industry and the entities mediating the process, another especially important stakeholder that will decisively influence this process also enters this process: the state and its representative authorities. The state can use its policies, strategies and resources to influence and stimulate technology transfer. Public and private finances can also provide essential support for this process (Brad, 2010).

These three entities that work together to accomplish the technology transfer aim at the acceleration of economic use of research results, with the transition from invention to innovation and its diffusion on the market, thus creating added value.

4 The Efficiency of the Technology Transfer Process and its main Influencing Factors

The efficiency of technology transfer is given by the optimal function of input and output by involving several entities and under the influence of several factors. The inputs for the technology transfer are: research results and financial resources. The outputs, according to several authors, are: income from patent licenses, the number and income from the contracts with the industry, the number of patents sold, the number of spin-offs created, the economy growth indicators or workforce employment (Oliveira and Texteira, 2010; Bercovitz and Feldman, 2006).

The efficiency of the conversion process into results is influenced by several factors. The classification of these factors in the literature is different according to the authors. Thus, Oliveira and Texteira (2010), in a study based on the literary on technology transfer written for the 2001-2007 period, classify the influencing factors in two main categories: internal factors and external ones. The internal factors are: the age of the entities involved their size and structure, the rewards offered, the nature and the stage of the technology that is being transferred, culture and norms, the links with the industry. The external factors are: location, laws and other legal rules and regulations, the regional economy context, public policies (Oliveira and Texteira, 2010)

Bozeman (2000) elaborated a model called "The contingency model for efficiency of technology transfer". This model includes five broad dimensions determining the efficiency of the technology transfer, (Bozeman, 2000):

1. *The characteristics of the agent that wishes to transfer technology*: the technology niche, the mission, the economy sector, the resources, geographic location, organizational structure, managerial style, internal policies;

2. *The characteristics of the channel performing the transfer*: the literature, patents, licenses, informal channels, staff exchange, demonstrations, spin-off formation;

3. *The characteristics of the research results that make the object of technology transfer*: scientific knowledge, technologies, drawings and technical drawing, processes, know-how;

4. *The characteristics of the entity that receives the technology*: the resources, production experience, marketing capabilities and abilities, geographic location, business strategies;

5. *The demand of the economic and social environment* in relation to the technology transfer: the existence of the demand for the object of technology transfer, its commercial and economical character, its potential demand.

Phan (2006) suggests that the efficiency of the technology transfer should be analyzed in three contexts: the institutional context, the organizational context of the research institution and the individual context. The institutional context refers to the internal policies, such as reward policy, the development strategy, the mission of the institution. The organizational context refers to the organizational structure, the document and information flow, hierarchical structure, decision-making policies, etc. The individual context refers to the aspects related to the professional ethics, individual objectives, professional and entrepreneurial skills of the researchers. In order for the technology transfer to be successful, all these three elements must be consistent (Phan and Siegel, 2006).

The main barriers encountered in the technology transfer activity that can negatively influence its efficiency are: company deficiencies, cost, risk and uncertainty, research institution deficiencies, institutional and organizational barriers and lack of information. The ability of the company to absorb transferred knowledge, measured in the quality and the expertise of the human resource and the existence of research activities are the pre-conditions for a company to become involved in technology transfer activities (Arvantis şi alţii, 2005).

Landry et al (2007) also presents a study on a group of 4000 Canadian researchers from 25 areas of expertise grouped in six major categories: chemistry, physics, mathematics, informatics, earth sciences and engineering. The study shows that the

main factors influencing the knowledge transfer for all six areas are (1) the connections between the researchers and the users of the knowledge resulting from the research activity and (2) the focus of the research projects on the specific needs of the users (Landry et all , 2007).

Analyzing the factors influencing the relevant efficiency of the technology transfer process, the literature notices that they are very complex and dependable on each other. All interested entities can have significant influences, both positive and negative, on the efficiency of the process.

5 Romanian National Research Institutes – Important Sources For Innovation And Technology Transfer

The technology transfer process depends essentially on the dependence of all entities performing research and development activities and the companies on each other. In Romania, the entities performing research and development activities are included in the national system for research and development. A distinctive part of this system is the research and development system of a national interest, which contains the national institutes for research and development. The national institutes for research and development represent a form of institutional organization that is specific for the activities of research and development, established for the consolidation of the science and technology in the areas of national interest (which have been established according to Romania's development strategy) (***, 2002)

At present, the national system for research and development contains 45 national institutes subordinated to nine ministries. All these national institutes perform research activities targeted towards specific areas of expertise: physics, chemistry, engineering, biology, medical studies, micro technology, geology, energy, environment, electrical science, electronics, communications, IT, tourism, food and agriculture (ANCS, 2010).

Unlike other research entities, they are financially independent and they find their own finance sources. Their funds come mainly from research projects won during national competitions financed from the state budget, according to the National Plan for Research and Development 2007-2013. Other income sources are the funds resulted from the international programs and cooperation and the ones attracted from collaborations with the companies. What is most important is the fact that the research results – documentations, studies, papers, designs, schematics, invention patents, licenses for designs and industrial drawings, technologies, procedures, informational products, networks, formulas, methods, prototypes – belong to the institutes that generated them. These can be managed by the owners and they enjoy all the ownership rights deriving from them (***, 2002).

One of the major objectives of these institutes is using the applicative results by transferring them to the companies. The collaboration with companies plays a very important part in the process of generating and diffusing knowledge and the acceleration of the innovative process inside companies.

Due to their areas of expertise in various key fields of the Romanian economy, the national institutes must become promoters of technology transfer towards the industrial fields compatible with their technical and scientific competences. Taking into account the fact that these institutes are free to manage and harness their knowledge portfolio to produce extra income, it is important that they above all should have the skills and capabilities of supporting the technology transfer.

6 Critical Analysis of the Current Trend of the Romanian Technology Transfer

At this point, Romania is faced with an acute lack of innovation in the case of companies. This represents a negative influence on their competitiveness on national and international markets.

According to the Community Innovation Survey from 2008, between 2006 and 2008, more than half of the industrial and service companies in the 27 EU membership states performed innovative activities (51,6%). In Romania the innovative companies represent only 33,3% (European Commision 2011).

Another evaluation instrument, the European Innovation Scoreboard (EIS), developed by the European Commission to evaluate and compare the performance of the membership countries in the field of innovation, places Romania in the category of the catching-up countries. Thus, the summary innovation index for Romania in 2009 is at 0,256 – relatively far from the UE27 average (0,481), which means that our country is on the second before last position (*** 2009). In 2010 (fig.1.1), the aggregate score for innovation declined in comparison to 2009, from 0,256 to 0,237, representing less than half the UE 27 average (0,516) (ANCS,2010).

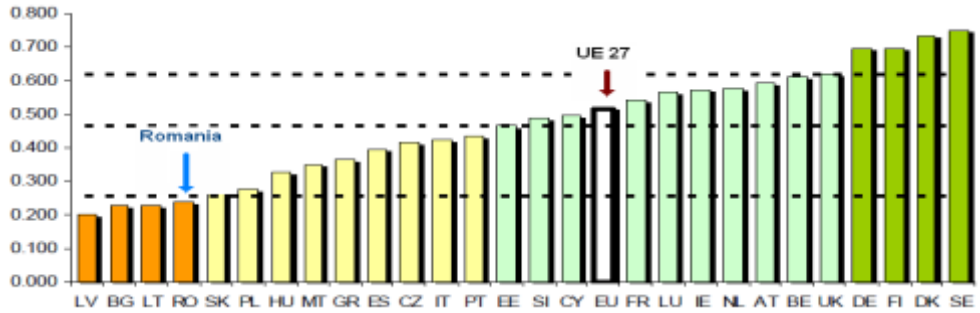

Figure 1.1 Cumulative innovation indicator for the EU members 2010 (ANCS, 2010)

Inovatori de frunte (''innovation leaders'')
Inovatori in urmarire (''innovation followers'')
Inovatori medii (''moderate innovators'')
Tari in recuperare (''catching-up countries'')

The current trend of Romania, although positive for the number and quality of the research results, its impact is barely felt in companies, as confirmed by the summary innovation index. Romania is part of the group that shows positive economic growth based mainly on the reduced workforce costs and low value added exports. On the other hand, the economic growth is based on a low level of infrastructure and innovation mechanisms, which are still in an incipient developing stage and cannot contribute significantly to this growth. The lowest indicators are registered for the "willingness, excellence and attractiveness of the CDI system", "entrepreneurial connections", "intellectual capital" and "innovators" (ANCS, 2010; ANCS, 2009).

The competitiveness of our country is no different. Table 1.1 presents the scoreboard of countries according to competitiveness, in comparison with representative countries such as USA, Hong Kong, Sweden, Germany, etc. The indicators show that Romania is situated at the end of this list.

Table. 1.1 Ranking changes in the international competitiveness scoreboard 2008-2011

	2008	2009	2010	2011
USA	1	1	3	2
Hong Kong	3	2	2	1
Singapore	2	3	1	3
Switzerland	4	4	4	5
Sweden	9	6	6	4
Finland	15	9	19	15
The Netherlands	10	10	12	14
Germany	16	13	16	10
Japan	22	17	27	26

UK	21	21	22	20
Bulgaria	39	38	53	55
Poland	44	44	32	34
Hungary	38	45	42	47
Italy	46	50	40	42
România	**45**	**54**	**54**	**50**
Venezuela	55	57	58	59

Source: IMD, World Competitiveness Scoreboard, 2009-2011

Another significant aspect revealed by the community innovation survey (CIS 2008) is the cooperation between the companies and the research institutes in the case of innovative activities. One third of the innovative enterprises in the EU (34,2%) have cooperated with other enterprises, universities, public or private research institutes between 2006-2008 in order to perform innovative activities, while the rest of them (65,8%) have innovated using only internal resources.

In Romania the rate of innovative enterprises that have cooperated in order to perform innovative activities was only 13,8%. This is the lowest rate among the EU member countries. The cooperation with other partners for this kind of activity refers to the partnerships with other enterprises, universities or public national or international research institutes (European Commision 2011).

The low rate of these indicators has many causes. One of them obviously is the low technology transfer rate from the national research and development system towards companies and the low efficiency of the relationships between these entities.

The national research institutes, key components of the national research system, occupy a determining role in the technology transfer process in the case of Romania. They play a decisive role in the creation of knowledge and the generation and distribution of the technical and scientific results. The success of this process depends decisively by their degree of involvement in the technology transfer.

There are major differences between these research institutes in the way they perceive the vital and real importance of the process of technology transfer for the Romanian economy. From a judicial point of view, their functioning is regulated in a unitary manner by the current laws. However, the institutional and managerial contexts vary according to the strategic vision of the top management.

The successful process and the creation of a bond with the economy depend on how much the institute chooses to adopt a strategic vision with respect to the technology transfer.

The result of the technology transfer process resides in not only selling a patent, giving out a license or initiating a collaboration project with the industry. The

success of this process is also represented by the selling and acknowledging of an innovation or an innovative product on the market. This is why the vision of the national research institutes must be a strategic one, oriented towards ensuring a set of complex research and consulting services for the companies – meant to support innovation. The approach must be proactive and should aim at meeting the specific needs of companies – especially the productive ones – and should aim at a timeframe that would correspond to the lifecycle of a product or innovative technology.

From a managerial point of view, supporting the technology transfer at a research institutional level implies establishing strategic objectives, process, decision-making and information organization of the structure that will serve this purpose.

Thus, taking into account the organizational processes taking place inside national institutes, certain deficiencies could explain the low rate of technology transfer. The main hypotheses are:

1. The lack of a proper management of technology transfer in the case of national research institutes;

2. The lack of an integrated institutionalized vision regarding technology transfer;

3. The improper management of intellectual property rights within national research institutes;

4. The poor quality of organizational processes within institutes and the lack of interest of the administration to involve in technology transfer activities, as well as the lack of an entrepreneurial approach in relation to using the research results;

5. The lack of technical, judicial or administrative support, which should be able to manage the relations with the industry and the lack of experience in this matter;

6. The lack of an incentive system for researcher for patenting and involvement in technology transfer activities;

7. The tendency of researchers to develop personal relationships with the companies, rather than institutional relations;

8. The inconsistency between the research fields with applicable results and the fields of the Romanian economy trends with innovation potential;

9. The predominant orientation towards the fundamental research and overlooking the applicative one;

10. The lack of a constant tie between the national institutes with the economy, the industry and the companies, with the entrepreneurs and the potential investors;

11.The lack of consensus between the needs and the expectations of the economy, the offer of the national research institutes, the intermediary agencies, governmental policies and financial policies.

All these aspects can become investigation matters for finding causes and solutions for the improvement of organizational processes within national research institutes in order to increase the efficiency of technology transfer activities.

7 Conclusions

The efficient process of technology transfer brings major benefits to all the stakeholders. The increase of the technology endowment by means of technology transfer from the research institutes towards the industry contributes significantly to the economy growth rate at a national and regional level. At the same time, the research institutes, as knowledge suppliers, can increase their income and can become financially independent in running entrepreneurial and research activities. Also, they can obtain other collateral advantages, such as research contracts sponsored by certain companies, employing and maintaining specialized staff and top researchers (Phan 2006).

Given all these positive effects that appear due to technology transfer, the national research institutes and all those involved in creating and implementing governmental policies for the stimulation of technology transfer must study, evaluate and improve the efficiency of this process.

Successful technology transfers depend on the ability of the top management of the research institutes to think this process strategically. It must eliminate the danger of not taking into account the importance of creating a performing and proper organizational context so that the process can take place.

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Investigation of the Factors Affecting Real Exchange Rate in Iran

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Abstract: This paper intends to investigate the factors affecting the real exchange rate in Iran in the period of 1978-2008. In this part, the econometric methodology and vector autoregressive model that is known as VAR is used to investigate the effect of proper variables on the real exchange rate. The results of Johansson-Jousilious test confirmed co-integration between variables, and thus long-run equilibrium relationship was confirmed among proper variables. Overall, the impulse and response functions showed that the shocking of variables, oil price and volume of money flows, has a positive impact on the real exchange rate and put it above its permanent level in the whole period of study. The results of variance decomposition showed that the most effects belonged to oil price and then volume of money flow that in fact represents greater relative importance of these variables in comparison with other variables among all model variables.

Keywords: Real exchange rate; VAR model; Johansson test; Impulse response functions; Variance decomposition

JEL Classification: C2; C8; E5

1 Introduction

Real exchange rate behavior has been at the centre of policy debates since the breakdown of the Bretton Woods system in the early 1970s. Because exchange rates play a vital role in global trading and portfolio investments, countries with fixed exchange rates need to know what the equilibrium rate is likely to be, and countries with variable exchange rates need to know what levels and variations in real and nominal exchange rates are expected (Haw et al., 2011).

Goldberg and Klein (1997) found that foreign direct investment in some less developed countries is significantly affected by bilateral real exchange rate.

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Caballero and Corbo (1988) study the conditions under which increases in the degree of uncertainty about the real exchange rate depress exports and find a clear and strong negative effect of real exchange rate uncertainty on export performance in several least developed countries. However, identifying the sources of exchange rate fluctuations is important if exchange rate stabilization is to be achieved. It is useful to be able to measure and distinguish between, relative importance of permanent and transitory shocks on real exchange rate.

Based on many studies, fluctuation in real exchange rate behavior has negative impact on other economic sectors among the exports. Hence, in order to increase the degree of international competitiveness and the export boom, analyzing the behavior of real exchange rate and its determining factors has always allocated a significant part of economic studies. Accordingly, this article intends to investigate determinants of real exchange rate in Iran at the period of 1978-2008.

Historical Time Path of Nominal and Real Exchange Rate in Iran

The currency and exchange rate arrangements in Iran are faced with many changes before and after the revolution. This event is characterized by a multi-rate system that was severe with regulations and exchange controls the decade after 1971. The years before the Iranian revolution, dollar exchange rate had stabilized at around 70 rials because of high oil revenues. The year 1973 was accompanied by emerging a floating currency system and collapsing the Bretton Woods system.

Until the spring of 1993, there were three exchange rates - official exchange rate, basic exchange rate, and float and competitive-in banking system and the parallel market exchange outside the banking system. Basic rate was used for oil exports income, imports of necessities and refunding the government debt. Competitive rates used on imports of intermediate and capital goods which were not eligible to use the official rate and the floating exchange rate - that the banks determined it according to the parallel market rate - was applied for the remaining transactions in the banking system. In early 1993, these three official exchange rates were changed to a single rate that had a less value compared to the previous level of official and competitive exchange rate and this was whilst some foreign exchange restrictions were lifted. Central bank of Iran determined the new daily rate according to the parallel market rate. However, the same rate was not used comprehensively because the previous base rate for imports of needed goods was offered to repay certain debts whose date of contracts was before the exchange. This led to large financial losses whose compensation was needed to increase the net domestic assets of the central bank.

Increasing in liquidity by easy tinder financial policies and the expected uncertainty of oil prices in Iran’s economy decreased the official exchange rate rapidly after the October 1993 indicating devaluation in the parallel market. In

December 1993, authorities dropped the floating exchange rate and had stabilized the official exchange rate at the level of 1,750 rials per dollar; as result, added price of exchange rate in the parallel market increased constantly compared to the official exchange rate. In May 1994, the second official exchange rate was introduced that was used for the non-oil exports, a list of import and the payment of the costs of services. This rate which was called the export exchange rate was fixed at the level of 2,345 rials per dollar. Main reason of adopting this rate was limiting the demand for imports of unnecessary goods and increasing in exports. After representing the export exchange rate in May 1994, added price of exchange rate in the parallel market was increased constantly in comparison with the official exchange rates that high inflation and expected intensification of trade embargoes of the US against Iran were the main reasons of it. In May 1994, delivery requirements of non-oil exports exchange rate increased by 100% and export rates were devaluated 3,000 rials per dollar. High inflation in Iran in comparison with its trade partners and increasing the dollar value against other major currencies led to a 27% increase in the stabilized official exchange rate the period 1996-1997.

In early June 1997, the third mechanism of exchange was offered in Tehran stock exchange market and a significant amount of imports were transported to this market. Despite the significant devaluation, the value of exchange in this stock market was growing increasingly in comparison with exchange rates in the parallel market.

Authorities recognized the need to reform the currency system and began initial reform measures in the period of 1999-2000. In May 1999, central bank absorbed significant amount of the excess reserves of commercial banks through facilities deposit accounts again and decreased added exchange prices in stock market. This stabilized the exchange market. After May 1999, added value of exchange rate in the parallel market decreased gradually in the stock market and reached from 17 percent to less than 2 percent in February 2000 and the import provided from official export rates led to the stock exchange gradually. At the end of March 2000, export prices were eliminated and exchange rate in the stock exchange set by the market became the most important exchange rate used for all the officially accepted current account transactions. Of course, transactions related to imports of subsidized commodities and debt repayment - that took place with the official rate of 1,750 rials per dollar - was an exception. So, Tehran stock exchange market had a remarkable stability by doing the suggested reforming measures in the second half of 1999.

In March 2002, all exchange transactions were done in stock market previously moved to an interbank market. The base official rate was removed and the exchange rate became uniformed at level of the stock market in which it was established earlier. In relation to uniformity of the exchange rate in March 2002,

authorities undertook the total cost of exchange rate differences –that was as result of the uniformity of exchange rate for the import of some goods.

The exchange subsidies of this import that were paid invisible previously, became evident largely in the budget of year 2002-2003. Part of this is provided by imported supplies through increasing the oil revenues that will be allocated in budget. Besides these obvious subsidies, the government undertook exchange rate differentials in obligations set forth by signing a Letter of credit with public companies to cover eliminated official rate. In the budget of year 2002-2003, using oil reserve fund and financing was predicted by the central bank to cover these commitments.

Authorities intended to remove apparent subsidies in the process of exchange rate uniformity during mid-term gradually and replace the desired transfers. Totally, central bank authorities' approach to exchange rate policy over the past decade indicates their strong tendency is maintaining the fixed official exchange rate. The witness of this claim is the registered official rate in many international transactions up to 1997 particularly. One of the continuing obstacles on the official rate was high inflation and high value of the real official rate in addition to significant price, and high added prices in comparison with the official exchange rates in the parallel market whose supply has been increasing in liquidity in order to finance the public sector.

From mid-1999, when financing significant amount of imports was driven toward the Tehran stock market, exchange rate at the Tehran stock exchange has been remarkably stable because of the massive central bank intervention and using oil revenues (Celasun, 2003).

2. Brief Literature Review

A number of studies have found that the level of real exchange rate relative to an equilibrium real exchange rate and its stability, has strong influence on exports and private investment (e.g., Caballero and Corbo, 1989; Serven and Solimano, 1991, Ghura and Grennes, 1993; Rodrik, 1994 and). More seriously, Yotopoulos and Sawada (2005) discover that systematic deviations of nominal exchange rate from their purchasing power parity (PPP) levels may endanger serious instabilities of the international macroeconomic system.

Different studies have been led about factors affecting the real exchange rate of which some are addressed below.

Moore and Pentecost (2006) examined the contributions of real (permanent) and nominal (temporary) shocks on the nominal and real exchange rates of the Indian Rupee against the US dollar in the period since 1993, using the long-run structural VAR technique. The paper results showed that the real exchange rate of the Rupee

against the U.S. dollar is non-stationary and that real shocks have permanent effects on the exchange rate, thus making exchange rate management at best futile and possibly harmful to the economy.

Rano (2009) investigated the long-run behavioral equilibrium real exchange rate in Nigeria by using a vector error correction model (ECM). Regression results showed that most of the long-run behaviors of the real exchange rate can be explained in term of trade, index of crude oil volatility, index of monetary policy performance, and government fiscal stance.

Celasun (2003) evaluated exchange rate policy and the basic criteria for the choice of the exchange rate regime in the medium term in the Islamic republic of Iran from 1993 to 2002. The analysis highlights the merits of an intermediate regime which would allow the authorities to smooth out excessive short term exchange rate fluctuations while letting nominal exchange rate movements facilitate real exchange rate adjustments called for by major oil price shocks.

Luqman Khan and Sulaiman and Alamgir (2010) investigated the sources of real exchange rate fluctuations in Pakistan, and used Structural VAR model to study the relative importance of different types of macroeconomic shocks on fluctuations in real exchange rate. The structural decomposition showed that more than 60 percent of the variance in forecasting the real exchange rate at a horizon of 4 quarters is due to nominal shocks.

Inoue and Hamori (2009) empirically analyzed the sources of the exchange rate fluctuations in India by applying the Structural VAR model. The VAR System consisted of three variables, the nominal exchange rate, the real exchange rate, and the relative output of India and a foreign country. The empirical evidence demonstrated that real shocks are the main drives of the fluctuations in real and nominal exchange rates.

3. Methodology and Econometric Procedures

In this section we discuss our approaches to estimate the factors affecting the real exchange rate. In our analysis we make use of seven macroeconomic variables and specify the real exchange rate equation as follows:

$$LRE = \beta_0 + \beta_1 LBD + \beta_2 LM + \beta_3 LMR + \beta_4 LNFA + \beta_5 LY + \beta_6 LOP + \varepsilon_0 \quad (1)$$

Where *LRE* is natural logarithm of real exchange rate; *LBD* is natural logarithm of budget deficit; *LM* is natural logarithm of volume of money flows; *LMR* is natural logarithm of import restriction; *LNFA* is natural logarithm of net foreign assets; *LY* natural logarithm of gross domestic product; *LOP* is natural logarithm of oil prices; β_0 and ε_0 are a constant and a normally distributed error term, respectively. This equation says that real exchange rate equation depends on budget deficit, volume

of money flows, import restriction, net foreign assets, gross domestic product (GDP), and oil prices.

This study uses annual data for the period of 1978 to 2008. The data are obtained from the central bank of Iran, World Development Indicators (WDI) published by the World Bank and the International Financial Statistics (IFS) published by the International Monetary Fund (IMF).The variables are constructed as follows:

The real exchange rate (RE) is defined as follows:

$$RE_t = (ER_t * CPI_F / CPI_{IR}) \quad (2)$$

Where CPI_F is consumer price index in the U.S. and CPI_{IR} is consumer price index in Iran and ER_t is exchange rate in open market.

Import restriction is defined as follows:

$$MR = (TIM / IM) \quad (3)$$

Where *TIM* is tax on import and *IM* is total import.

To investigate the response of macroeconomic variables to positive and negative innovations in real exchange rate, we use an unrestricted vector autoregressive model (VAR). The Vector Autoregression (VAR) model is one of the most flexible and easy to use models for the analysis of multivariate time series. It is a natural extension of the univariate autoregressive model to dynamic multivariate time series. The VAR model has proven to be especially useful for describing the dynamic behavior of economic and financial time series and for forecasting. It often provides superior forecasts to those from univariate time series models and elaborate theory-based simultaneous equations models. Forecasting from VAR models are quite flexible because they can be made conditional on the potential future paths of specified variables in the model.

In addition to data description and forecasting, the VAR model is also used for structural inference and policy analysis. In structural analysis, certain assumptions about the causal structure of the data under investigation are imposed, and the resulting causal impacts of unexpected shocks or innovations to specified variables on the variables in the model are summarized. These causal impacts are usually summarized with Impulse Response Functions (IRF) and Forecast Error Variance Decompositions (VDC).

Our unrestricted vector autoregressive model in reduced form of order p is presented in equation (4):

$$y_t = c + \sum_{i=1}^{p} A_i y_{t-i} + \varepsilon_t \quad (4)$$

Where c = $(c_1,\ldots, c_7)'$ is the (7×1) intercept vector of the VAR, A_i is the i^{th} (7×7) matrix of autoregressive coefficients for i = 1, 2,…, p, and $\varepsilon_t = (\varepsilon_{1,t}, \ldots, \varepsilon_{7,t})'$ is the (7×1) generalization of a white noise process.

The vector autoregressive model is estimated in levels of the variables in natural logarithms. As described in the data section, we use seven endogenous macroeconomic variables in our system: *LRE, LBD, LMR, LM, LNFA, LOP, LY*. The form of unrestricted VAR system in this study is thus given by:

$$\begin{bmatrix} LRE \\ LBD \\ LMR \\ LM \\ LNFA \\ LOP \\ LY \end{bmatrix} = \begin{bmatrix} c_1 \\ c_2 \\ c_3 \\ c_4 \\ c_5 \\ c_6 \\ c_7 \end{bmatrix} + A(L) \begin{bmatrix} LRE_{t-1} \\ LBD_{t-1} \\ LMR_{t-1} \\ LM_{t-1} \\ LNFA_{t-1} \\ LOP_{t-1} \\ LY_{t-1} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \\ \varepsilon_{4t} \\ \varepsilon_{5t} \\ \varepsilon_{6t} \\ \varepsilon_{7t} \end{bmatrix} \quad (5)$$

Where A(L) is the lag polynomial operators, the error vectors are assumed to be mean zero, contemporaneously correlated, but not auto-correlated.

The unrestricted VAR system can be transformed into a moving average representation in order to analyze the system's response to a shock on real oil prices, which is:

$$y_t = \mu + \sum_{i=0}^{\infty} \Psi_i \, \varepsilon_{t-i} \quad (6)$$

With Ψ_0 is the identity matrix and μ is the mean of process:

$$\mu = (I_p - \sum_{i=0}^{\infty} A_i)^{-1} c. \quad (7)$$

The application of moving average representation is to obtain the forecast error variance decomposition (VDC) and the impulse response functions (IRF).

4. Results and Discussion

In order to properly specify the VAR, test for unit roots and co-integration are conducted. There have been at least two exogenous shifts in variables during 1978 to 2008, which would significantly affect the analysis. In the presence of such shifts Philips-Peron test is an appropriate check on the ADF (Philips, 1991). We first check the unit roots using Augmented Dickey-Fuller (ADF) and Philips-Peron (PP) tests. Table (1) provides the results of unit root tests on the data. Augmented Dickey-Fuller (ADF) and Philips-Peron (PP) tests are evaluated. Both the ADF and PP tests indicate that the null hypothesis of a unit root cannot be rejected for the levels of all variables, while the first differences are confirmed to be the stationary. Thus, all variables are found to be I(1) series.

Table 1: Results of (ADF) and (PP) unit root tests on variables of model

	ADF test		*PP test*	
Variables	*Level*	*First difference*	*Level*	*First difference*
LRE	-2.46	-3.43**	-2.59	-3.66**
LBD	-2.38	-5.85***	-1.78	-6.42***
LY	-1.89	-2.66*	-2.07	-2.72*
LM	-2.03	-2.75*	-2.23	-3.36**
LNFA	-2.08	-3.45**	-2.53	-3.22**
LMR	-2.58	-6.11***	-1.96	-2.85**
LOP	-1.86	-3.97***	-2.27	-5.6***

Note:*, ** and *** denotes 10%, 5% and 1% significance levels, respectively.

Source: Research findings

In empirical analysis, using the Akaike Information Criterion (AIC) and Schwartz Bayesian Information Criterion (SBC) to choose the optimal lag length of VAR, we find that the VAR(1) model is the most appropriate for the system. Then, we checked whether the variables are co-integrated, utilizing a maximum likelihood procedure developed by Johansson and Jousilious (Johansson and Jousilious, 1990). If the variables were co-integrated, it shows that long-run equilibrium relationship is confirmed between proper variables. Table (2) presents co-integration test results based on Johansson's procedure. Test results indicate that there are 4 evidences of co-integration among variables. Therefore, long-run equilibrium relationship is confirmed between proper variables.

Table 2: Results of the Johansson test to specify long-run equilibrium relationship between proper variables

Trace Statistic Test	*Null*	*Alt.*	*Eigen value*	*Trace Statistics*	*0.05 Critical Value*
	r =0	r =1	0.961	226.07***	125.61
	r≤1	r =2	0.903	144.84***	95.75
	r≤2	r =3	0.767	86.54***	69.82
	r≤3	r =4	0.589	50.18**	47.86
	r≤4	r =5	0.469	27.92	29.79
	r≤5	r =6	0.347	12.06	15.49
	r≤6	r =7	0.054	1.39	3.84
Maximum Eigen value	*Null*	*Alt.*	*Eigen value*	*Max-Eigen Statistics*	*0.05 Critical Value*

	r =0	r =1	0.961	81.75***	46.23
	r≤1	r =2	0.903	58.35***	40.08
	r≤2	r =3	0.766	36.37**	33.88
	r≤3	r =4	0.589	22.24	27.58
	r≤4	r =5	0.469	15.85	21.13
	r≤5	r =6	0.347	10.66	14.26
	r≤6	r =7	0.054	1.39	3.84

The Johansson tests with linear deterministic trend

*, ** and *** denotes 10%, 5% and 1% significance levels, respectively.

Source: Research findings

After specifying the VAR properly, the restrictions are imposed and the shocks are identified. The dynamic effects of all types of shocks can be analyzed by variance decompositions and impulse response functions. To shed light on the sources of each variable, we calculate the forecast error variance decomposition. Variance decomposition is a convenient measure of the relative importance of such shocks with respect to the overall system. Table (3) reports the variance decomposition for the real exchange rate in logarithmic first differences at selected horizon.

Table 3. Results of variance decomposition of real exchange rate in the period of 1978-2008

Period	*S.E*	*LRE*	*LBD*	*LM*	*LMR*	*LNFA*	*LOP*	*LY*
1	0.084	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.12	84.053	0.012	2.45	2.21	2.27	7.94	1.05
3	0.151	68.65	0.21	7.6	1.84	2.57	18.22	0.87
4	0.176	58.74	0.18	11.86	1.35	2.33	24.82	0.67
5	0.194	52.98	0.16	14.47	1.34	2.04	28.11	0.87
6	0.205	49.85	0.22	15.63	1.67	1.83	29.4	1.36
7	0.211	48.33	0.35	15.87	2.08	1.73	29.74	1.88
8	0.214	47.75	0.46	15.69	2.38	1.69	29.76	2.23
9	0.215	47.61	0.54	15.54	2.51	1.68	29.71	2.38
10	0.216	47.53	0.56	15.69	2.51	1.67	29.61	2.39

Cholesky Ordering: LRE LBD LM LMR LNFA LOP LY

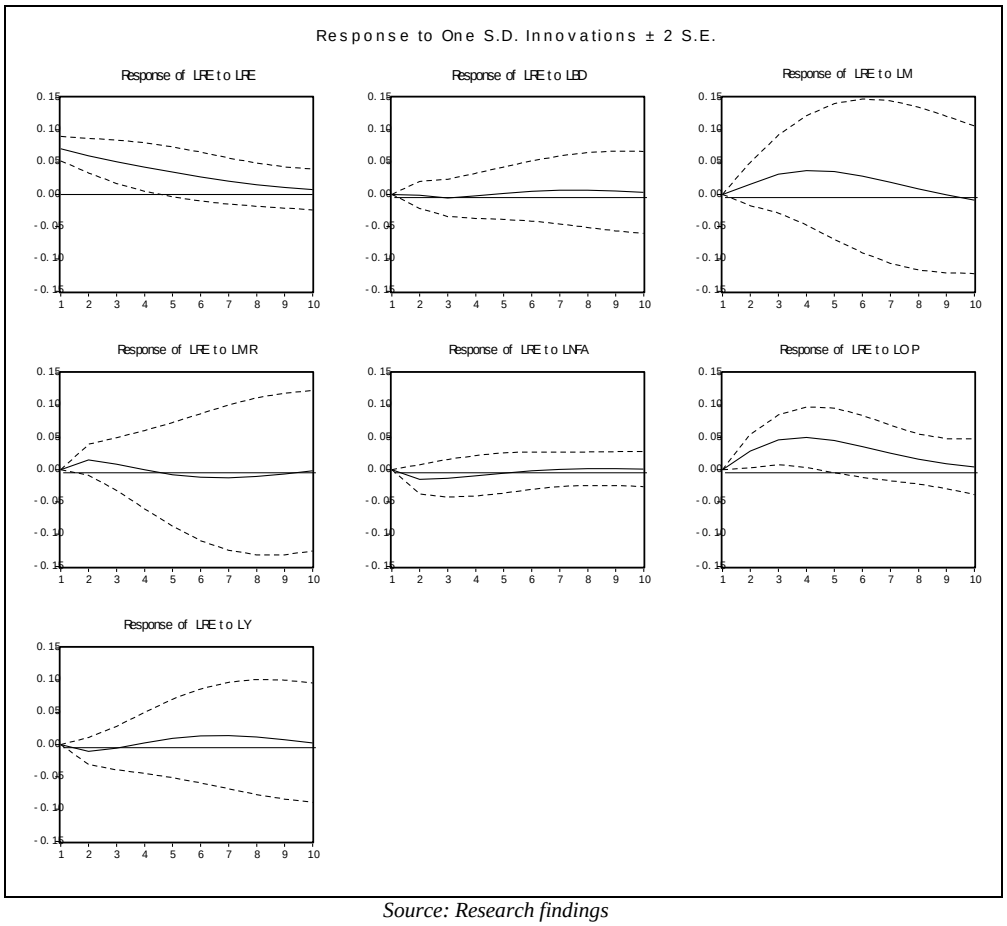
Source: Research findings

Variance decomposition in the real exchange rate suggests that oil prices shocks explain most of the movement in the real exchange rate. Oil prices shocks, which are the most important factor, account for more than 29% of the real exchange rate variation. Volume of money flows, meanwhile, explains about 15.7% of the forecast error variance. Import restriction shocks account for about 2.5% of the real

exchange rate movements. Gross domestic product, net foreign assets, and budget deficit shocks account for about 2.4%, 1.7% and 0.5% of the real exchange rate variation respectively. To summarize, oil prices shocks account for most of the forecast error variance of the movement in the real exchange rate.

While the variance decomposition measures the relativity of the different types of shocks to real exchange rate, the effects of one-time shocks are measured by the impulse response functions and it is useful in assessing the signs and magnitude of response to different shocks. Figure (1) displays the impulse response function for the real exchange rates in respect to variables of model.

Figure 1. Response of the real exchange rate due to imposed shocks from the other variables in Iran in the period of 1978-2008



Source: Research findings

Figure (1) shows response of the real exchange rate due to imposed shocks from the other variables. According to this chart, the variable real exchange rate has had a decreasing trend until the fourth period in response to shocks of budget deficit. This impact was fixed from the fourth to fifth period and has increased the real exchange rate until the end of the period. These results show that volume of money flow has positive impact in the short-run and negative impact in the long-run on real exchange rate respectively. These impacts have reduced over time and tend to zero at the end of period. This result show that the imposed shocks on the real exchange rate does not disappear in the short term and it takes at least ten years for the real exchange rate to reach its equilibrium level. Import restriction has positive impact in the short-run and negative impact in the long-run on real exchange rate and finally reaches its constant level at the end of the period. Response of real exchange rate to the shocks of the variable of foreign assets decreases to the third period. From this period until the fifth there has been an increasing trend and after the fifth there has been a constant and uniformed process. The shocks of oil prices almost has had the same impact as volume of money flow which has positive impact on real exchange rate in the short-run and negative impact in the long-run. GDP has had negative effect on real exchange rate. in the short-run But it has increased real exchange rate in the long-run and the effect of this shock will disappear after about ten years.

Long-run relationship between variables was estimated and presented in the form of normalized co-integration coefficients as following:

Table 4. Results of Johansson co-integration test of real exchange rate

Variable	*Coefficient*	*Standard Error*	*t Statistic*
LRE	1	-	-
C	7.9	-	-
LBD	0.0017	0.0003	5.6
LM	0.94	0.091	10.3
LMR	-0.603	0.091	-6.62
LNFA	-0.61	0.05	-12.2
LY	-0.91	0.173	-5.26
LOP	0.701	0.072	9.73

Source: Research findings

The results of table (4) show that there is a positive relationship among budget deficit, volume of money flow, oil prices and the real exchange rate but a negative relationship among import restriction, net foreign assets, GDP and the real exchange rate. According to the other research, the positive relationship among budget deficit, volume of money flow and the real exchange rate and the negative relationship among import restriction, net foreign assets and GDP and the real exchange rate is consistent with theoretical principles. But the positive relationship between oil prices and the real exchange rate is inconsistent with theoretical

principles. The positive impact of this variable on the real exchange rate justifies that increasing in oil prices have a positive impact on oil revenues - that is the main source of government income- and will increase national income. Economic experience of Iran shows that the most revenue from oil sales causes to increase liquidity, inflation and the devaluation of domestic currency and thereby increases the real exchange rate.

5. Conclusion

This paper analyzed the factors affecting the real exchange rate in Iran in the period of 1978-2008. The analysis applied the VAR model. The results of Johansson-Jousilious test confirmed convergence between variables and thus long-run equilibrium relationship was confirmed among proper variables. Overall, the impulse and response functions showed that the shocking of the variables- oil price and volume of money flows-has a positive impact on the real exchange rate and puts it above its permanent level in the whole period of study. The results of variance decomposition show that the most effect belongs to oil price and then volume of money flows that in fact represents greater relative importance of these variables in comparison with the other variables of model.

According to the results of research, this paper suggests that the central bank can decrease the real exchange rate fluctuations more than volume of money flow and inflation by decreasing monetary policies and increasing fiscal policies when oil revenues increase as a result of increasing in oil prices. Attention to the amount of revenues and Reduce unnecessary costs is necessary to reduce or prevent constant budget deficits. The government can decrease the real exchange rate by adopting taxes on import of unnecessary goods. Consequently, this will lead to increase in domestic production and gross domestic product.

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Men versus Women in the Sale of Financial Products

Daniel Michael Vasiliu[1]

Abstract: In this paper I investigate the impact of gender role in the development of buyer-seller relationships. There was no recipe to convince who is best in sales - man or woman or who is the ideal buyer-female or male. Employers' trend in banking in recent years is to choose women in front-office jobs. Depending on the membership of a particular kind I will analyze the factors perceived by customers as being important in the development of ongoing relationships with frontline staff and gender differences in buyer behavior on the one hand, and sales effectiveness on the other. In recent years there have been trends that the female vendors are perceived by buyers as they shows more empathy and less oriented sales and the interaction with buyer's sex is important in determining the quality perception of these aspects of the relationship. Using the study and observation I will reveal the combined effects of gender interaction and gender differences in communication styles, customizing the client-counsels' work in a branch bank.

Keywords: customer orientation; customer advisor; customer care; financial services; genre

JEL Classification: M 31

1. Introduction

This paper aims to demonstrate that a market in which all financial services offers similar overall functional benefits, superior relationships can be used as means to gain advantage by positioning the top seller. Financial services (loans, establishment of deposits) can be lengthy, which makes the only reaching to interact constantly with customers are counseling clients, employees assume considerable responsibility for developing and sustaining relationships.

It is widely accepted that regardless of the gender of counsel clients, to be successful in selling financial products, must be authentic. One of the main elements that provides sales optimization, independent of gender dyads is generated from membership control of their attitudes. Skills required in the selling process can be learned, communication skills and interpersonal can be improved by trainings, organizational skills can be improved with technology. Women generally takes fewer risks than men, where women feel at risk, men perceive a challenge.

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When it comes to financial investments, women show more caution than men. Study the impact of gender differences covers two segments, the first refers to how the purchase decision process differs between the sexes, the second refers to differences between the sales staff male and female.

2. Sex Differences in the Development of Relations in the Financial Services Sector

Financial services are generally complex and involve a high degree of uncertainty of the buyer, increasing the likelihood of probing from customers as to create a relationship with them (Berry, 1983, Lovelock, 1983). In the current global economic and financial crisis, both sales staff and customers search for security relations if the market is turbulent. It has been shown that males generally get better results than females on tests that use spatial dimension. About women, studies show that they are more skilled than men in the verbal dimension, have a higher speed of articulation of complex words and grammatical statements as better (Halpern and Wright, 1996). Women involved in the sale are instructed not to be persistent, but always willing to offer help. It generally takes fewer risks than men, where women feel at risk, men perceive a challenge. When it comes to financial investments, women show more caution than men.

Men and women show a difference of attitude towards risk that the partner is ready to assume. Women try to compensate side, we risk everything "investing more cautious than males, Sunden A, B Surette (1998). Regarding the confidence in Financial Services, men shows more confidence. One of the psychological resorts generally used to explain this difference is that women are less exposed to the prejudice of self-attribution. Various studies show that trust is the net difference especially on male activities. Given the over-representation of men in the world of finance, is a fact that they generally consider themselves more competent than women on financial issues. Following a laboratory experiment aimed to evaluate lotteries, Gysel, Kruse and Schubert (2002) concluded that for women, unlike men, risk aversion decreases as expertise increases. When calling in between performance and experience comparable flows are rare, to the appetite for the financial banking services managed by women than for those managed by men, especially when it comes to inexperienced persons. This distinction is explained by sexist stereotypes, which states that women are less competent than men in financial matters.

Traditional analysis of sales staff performance based on static situational factors have led the identification of features of salesperson, man or woman who are required to develop quality relationships, such as level of customer orientation posed (Michaels and Day, 1985, Saxe and Weitz, 1982), their ability to empathize

with customers (Spiro and Weitz, 1990), ethical orientation (Whalen et al, 1991) and the extent to which they can generate the trust of their customers.

Research in this field have revealed differences in behavior between the sexes in terms of buying and selling behavior. There are four alternatives (male seller / male buyer, female seller / female buyer, female seller / male buyer, male seller / female buyer). With regard to financial services and banking industry, studies show that there are significant differences in key developing an optimal buyer-seller relationships, not sex addicts themselves, but the combination of type of buyer and seller.

The sales staff (counseling clients) and their customers-called, female, identified a number of characteristics specific to women that relate to more emphasis on people and relationships, the approach that the dominant values in society are carefully to each other, increased affection and concern for relationships, resolve conflict through compromise and negotiation.

On the other hand, for the same category, have been nominated a number of masculine features, that the dominant values in society are material success and progress, more emphasis on money and things, the idea that women should be affectionate and take care of relations and conflict resolution by fighting it.

Previous research on gender differences of sales staff.

In the specialized literature there are very few approaches that distinguish between sales staff male and female in terms of outcomes achieved in the sale.

In recent years there has been a significant increase in the number of women employed in non-retail jobs sales professional. In the banking and financial services sector is estimated that 58 percent of the sales staff were women employed in recent years, allowing an environment suitable for development, in which male attitudes are no longer dominant (U.S. News & World Report, 1989). It was found that women - counseling clients more value on interpersonal and social aspects of their job. Men value the more career-oriented factors such as salary, promotion opportunities and job security, which is consistent with the stereotypical characteristics of independence, aggressiveness and competition. While counselors customers show more interest than men to pay, promotion opportunities and job security, but more interested in personal growth and social aspects of their work.

3. Previous Research on Gender Differences of Clients

Field studies show that women have lower performance expectations than men, while they tend to overestimate their own performance (Lenney, 1980). Women are more sensitive than men to relevant information's features (Meyers-Levy and Sternthal, 1991). They are more susceptible than men to all stimulus (except

smell), they respond to non-verbal stimulus by evoking more associative interpretations based on images and descriptions more elaborate than men (Gilligan, 1982; Krugman, 1966). The literature also suggests differences in men and women in persuasivity, women may be more compelling than men, persisting in some cases, depending on whether the conviction contains common messages consistent with their own scheme of self -perception. It is a generally accepted theory that the gender differences in consumer behavior with regard to advertising and perception to how product attributes are described (Schmidt et al, 1988). Such experiments have shown that the probability of individuals to enter a form of relationship is closely related to their attitudes, values and beliefs (Lea and Duck, 1982). Similarity of values provides support to the view of an individual and makes interaction easier and more rewarding. However, in personality, similarity was found to have less of an effect with potential partners preferring partners who were attractive and full of satisfaction in a way, or performing some form of complementary needs. In the context of buyer-seller relationships, several aspects of interaction between the sexes remain no depth. Not been established that buyers looking for properties of a financial adviser, they do not have, such as empathy. Although female financial advisors are now many, we can not conclude that female customers may be suspicious of other women who work outside their stereotypical gender role.

4. Capacity of the Persons Involved in the Sale of Banking Products – Empathy

A common feature for customers counselor male or female is empathy with customer needs, only that the theories in the field appreciate as a predominantly feminine trait. Empathy is considered by many theorists as a prerequisite for successful selling (Greenberg and Greenberg, 1983; Sager and Ferris, 1986).

This requires the ability to see the problem as someone else would be that person.

Financial advisor must use empathic capacity to understand and successfully respond to customer needs and develop such a relationship over time. Empathy, which is an important component of customer orientation has been identified as a feature most of the female sex. In contrast to the male role, which is characterized as being relatively self-focused, gender-role issues involving sensitivity to both self and others.

The literature shows that women may be able to develop close relationships with their customers, but there is little evidence that close relationships involve more profitable relationships with the employer. Selling pressure is considered to be a males personality trait, men being guided mainly by highlighting trends, control

trends of self-assertion, self-efficacy and mastery, with a tendency to pursue the objectives by force, with personal consequences.

5. Gender Differences in Communication

Field studies show that women involved in the sale have more skills for decoding non-verbal messages from consumers than men. This ability is related of the communication skills, which seems to be more prerogative feminine.

Communication is the mean by which ideas and information are spread from person to person. People use communication to express feelings, emotions, opinions and values, to learn and teach, and improve their status. Communication is therefore vital for human interaction. Diversity and characteristics of those involved in any interaction can affect so communication.

Gaps in communication occurs when a message is sent or is intended misunderstood.

Misunderstandings result is mainly due to different communication between people. Gender differences in communication can cause problems in interpersonal interactions that lead to intolerance, resentment, stress and lower productivity. This is very critical in sales.

Some people may consider only verbal attributes while still others will take into account non-verbal interactions - and intelligence will focus on both.

There are two views on the genre - essentialist and social constructionist views (Robb, 2004). Essentialist view of gender is one that we were born as part of our genetics. Male and female roles are therefore distinct identities that shape behavior.

However, this view may be somewhat limited, it does not take account of masculine and feminine attributes inherent in people. Point of view of gender constructionist social supports that a psychological conditioning who we are and what we become, is social interaction.

Most publications on gender differences considered to be within two categories of bias: alpha if the difference is exaggerated or beta, which means that there is little difference between the sexes (Canary Islands & Passing, 1992).

Jennifer Coates believes that women reveals a lot about their privacy in their conversations, while men discuss things other than their personal relationships and feelings are frequently changing topics.

Deborah Tannen argues that men and women approach the conversation with a separate set of rules and interpretations of talk. Men focus on the status and independence women emphasize intimacy and connection, which is a gender

difference making communication problematic. John Gray (1992) argues that women use superlatives, metaphors, and generalizations in their speech, while men are more direct and simple in speech, sound technique used to emphasize certain points of view, while women use voice inflection. On the other hand, men tend to interrupt more often than women, make direct accusations and statements, and ask lower questions.

In the sale of financial products, communication style of women is seen as being more emotional than men. Addresses women nonverbal communication style, warmer than that of men, with a tendency to smile, they also use a pleasant voice, which is characteristic male sales people. Differences exist in terms of gestures addressed when dialogue with customers. Male counseling clients move straight and sharp, while women tend to have more fluid movements.

There are contexts in which men exhibit feminine behavior, contexts in which women exhibit masculine behavior, and the contexts in which behaviors vary by sex.

In fact, over the years have been in continuous study and were analyzed gender differences in communication styles. Bernard (1969) emphasizes that cultural norms for femininity have prescribed "expressive speech", while men on the other hand, tend to engage in "discussion tool".

6. Men versus Women in the Bank

Numerous studies have sought to examine the link between gender diversity in the composition of the sales team of bank branches and financial performance, the impact of gender diversity of business. The first clarification is that the resulting relationship between two variables studied is a correlation, not causation. In other words, any outcome of these studies can only show the coexistence of these aspects and not the fact that women in predominantly in the sales team leads to / causes high financial indicators for the organization. Theories of gender differences in sales started from the various assumptions: the differences are biological or rather the style? Differences in efficiency that they bring leadership, and if so, what differences favoring success? The differences are real or perceived?

Biological theory assumes that the ability to sell is genetically determined, innate in men and women so inaccessible. Another theory, which starts from the concept of gender role (gender role) recognizes the role of socialization and explores gender roles as determinants of success in sales. A third perspective involves identifying other factors that could make the difference: attitudes towards the business of selling women, women in self-confidence, experience and style of predominantly male organization.

In the banking sector is embracing the idea that covering the top of sales in a bank-relationship-manager must have features typical male. Typical male behavior is considered important to meet the challenge of working with premium customers, top customers. People who have these behaviors without and supportive behavior (considered more feminine) are seen in greater fit to hold this post. Women adopt these specific male behaviors to succeed in this position, even though this model has advantages and disadvantages for them (likely to be perceived as less feminine). Possession of feminine characteristics but does not seem to diminish the chances of becoming a top relationship managers, as long as they are accompanied by male behavior.

7. Conclusions

Often in literature the difference between the perception of men and women is explained by the different tasks of the two cerebral hemispheres and the link between them. Scientific research shows that brain hemisphere is responsible for emotions and half for logic. Thus, the left cerebral hemisphere is connected computing capacity and right cerebral hemisphere is joined by thinking in images, fantasy headquarters. It has been shown that men are centered left cerebral hemisphere and the influence of women is prevalent right hemisphere.

Gender schema theory argues that it is inappropriate to treat gender as discrete subsets of the population, but rather, everyone should be considered as having characteristics that are more or less dominated by male or female characteristics. One possibility in this research is the idea that financial advisers (and also female buyers of financial services) tend to be more masculine in their personality attributes than the female population in general.

Increased capacity of persons to empathize female innate sympathy for details may make it advisable to sell the work in customer relations, but excessive sensitivity can vulnerable in this position.

Male aggression, persistence and security dialogue are advantages for the employment of mainly males in sales activity. In the banking sector, tend to hire people to work the female is not much activity involving land, especially for keeping customer relationships, while fieldwork preference for men.

Practice shows however that there are general rules apply and that gender-specific features can be found in a more strongly to the opposite sex, but now we can conclude that, in sales of financial services, the emphasis is the relational skills of the sales agent, such as communication and problem solving skills more proportionate to the personality traits associated with women than with men.

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Accounting and Auditing

Impact of Cross-listed Directorship on Appointment and Independence of Auditors: Evidence from Republic of Macedonia

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Abstract: This study investigates the association between cross-listed directors at multiple boards of directors and the choice of audit firm in emerging market economy such as Republic of Macedonia. The study involved all listed companies and companies with special reporting obligations at Macedonian Stock Exchange owned domestically, since appointment of auditors for subsidiary companies is influenced dominantly by parent company decision making process. Determinants of auditor selection are important input for overall assessment of auditor independence and audit quality and provide valuable argument for revised regulations in order to improve credibility of audit of financial statements. There is limited research available regarding the close relationship and ties between management and auditors, especially in the case of small audit markets where the potential impact of cross-listed directorship on auditor independence and audit quality is considerable. The results of the study provide little evidence of significant relationship between cross-listed directorship and the choice of auditor in respect of Macedonian listed entities. The findings will be of interest for public accounting firms in developing their strategies for close inter-relationships with those charged with governance. It is intended to help regulators assess the impacts of interpersonal relations to auditor independence and quality of assurance services provided to the general public, as well as improvement of monitoring function on behalf of shareholders.

Keywords: cross-listed directors; auditor choice; audit quality; small audit market

JEL classification: M42

1. Introduction

This paper examines the connection between cases of cross-listed directors at multiple board of directors and audit firm links. Potential links of such nature are important as they can influence both auditors' independence and audit quality (Davison et al., 1984; Jubb 1999). The motivation for our study of cross-listed directorship and auditor links has been inspired by the importance of auditors' independence and little research available in relation to auditors' independence in South-East Europe. In addition, when it comes to the close ties and links between directors and auditors little evidence of research, if any, could be found in respect of small audit services markets, such as the audit market in Republic of Macedonia.

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It has been argued that inappropriate competitive strategies such as low-balling or decreased services quality could prevail on small professional services markets. Our motivation for the study was to identify whether close links and ties between board member and auditors exist and compare the results with previous research conducted on large audit markets.

Cross-listed directorship occurs when one or more directors of one company sit on the board of another company or companies. This paper provides analysis of instances of the same director being linked to the same auditor across more than one company, as an indication of close ties and relationship between board members and auditors impacting auditors' independence.

Cross-listed directorship or interlocking directorates are long-standing phenomena with many implications for all economies. Fama and Jensen (1983) argue that multiple directorships encourage greater monitoring of corporate decisions on behalf of all shareholders. This is because directors involved have significant investment in establishing reputation as decision experts. Since interlocked directors are most likely to be outside directors, it is argued here that systematic links by these directors with the same auditor present a potential conflict of interest. They have the potential to compromise audit independence and degrade the effectiveness of audit to serve as monitoring function for shareholders.

Flint (1988) provides evidence that long-term relationship between auditors and clients may cause the auditors to start expressing strong loyalty or emotional connection with their clients, which could result in decreased auditor independence. This means that the quality of audit work completed and overall auditors' competence to decline resulting in subjective, unjustified judgments made when evaluating audit evidence.

In order to maintain the credibility of the audit function and protect auditors from lengthy and costly litigations, the auditing profession and regulators in various jurisdictions prescribe special requirements designed to limit personal relationship between auditors and clients. In the case of the Republic of Macedonia, in accordance with the Auditing Law audit, engagement partners rotate every 7 years, for bank holding companies the statutory audit firm rotates every 5 years. Nevertheless, rotation of engagement partners can't be considered as proficient measure to break close auditor-client ties and secure auditors' independence. Therefore, we have included only non-financial entities in our sample companies and reviewed membership at their board of directors as well as appointed auditors.

The paper proceeds with previous literature on interlocking directorates and auditors' choice provided in section 2, section 3 and 4 present the research method applied and results obtained, while section 5 presents the conclusion and implications for future research.

2. Literature Review

Primary paper addressing the issue of cross-listed directors and selection of auditors is the work of Davison *et al.,* (1984) whose analysis have shown significant relationship between the number of director interlocks and the probability that these interlocked companies are audited by the same auditor. Seabright, *et al*., (1992) investigated the effect of attachment of individuals primarily responsible for the auditor-client exchange on the likelihood of auditor switching. The results of this study suggest that auditor-client relationship relies largely on personal knowledge and trust and these forbid clients to consider an audit firm change.

Jubb (2000) examines auditor choice from this people factor perspective. The study controls for alternative explanations for auditor choice and finds the existence of shared directors (multiple-board external directors) has a systematic and significant measurable effect on auditor choice. The analysis covered various locations in Australia, across different specialist levels and between big 5 and non-big five audit firms. An additional motivation behind selecting an auditor goes to what has been referred as the "insurance hypothesis" or the "deep pockets" syndrome. Internationally affiliated audit firms with substantial resources and insurance coverage are expected to be able to make significant payments in the event of audit failure.

Many explanations have been offered for the existence of interlocking directorates covering a range of theoretical prescriptions. These perspectives have included transaction costs (Williamson, 1991), agency theory (Eisenhardt, 1989) and class theories (Koenig and Gogel, 1981). However, the most relevant explanation for their existence, in terms of the context relevant to this study, is that they serve to reduce or control uncertainty in business environments (Allen, 1974; Schoorman *et al.,* 1981; Mizruchi, 1996). Allen (1974) specifies three main ways in which interlocking directorates attempt to reduce environmental uncertainty. These are (1) by the exchange of information and expertise between companies; (2) by providing a stable means of communication and liaison between companies; and (3) by advising management concerning the relationship of the company to its external environment.

Unlike other products or services, the quality of an audit is not readily discernible. It cannot be judged from the outside and must be experienced to be evaluated (Pennings *et al.*, 1998; Craswell and Francis, 1999). Interlocking directors holding multiple board positions are in one of the best positions to judge the relative quality of audits due to their experience with various service providers. Their experience gives them the ability to advise on and perhaps contribute to selection of the most appropriate auditor for companies on whose boards they sit. Sharing this

knowledge with boards of other companies on which they sit reduces the costs of evaluating the strengths and weaknesses of potential auditors.

However, auditor independence is of primal interest in order to provide credibility to general purpose financial statements for various users and stakeholders, which is the main reason for existence and development of the auditing profession. Therefore, the significant impact of interlocking directorates to auditor's choice is important factor influencing relative independence of auditors and the objectivity in making professional judgments while completing audit assignments.

In respect of the approach and results of previous research, we formulate the Ho hypothesis as follows:

"Ho: The frequency of common director-auditor links is not associated directly with the frequency of interlocking directorates."

3. Methodology

The empirical study elaborated in this paper covers all firms listed on the official market of Macedonian Stock Exchange and publicly held companies with special reporting obligations, total of 101 companies as of July 2011. For 17 companies there were no exact or updated data on Board membership or appointed audit firm and were not taken into account. Also, another 26 companies were not included in the sample due to foreign ownership, since their audit decision can be affected by their foreign connection (Baydoun, 1999). The final sample consisted 58 companies audited by 15 different audit firms. Previous studies have classified accounting firms in three main groups: big-four, second tier and local accounting firms. The motive why this classification is made lies in the distinction in quality of performance that researchers make between big-four and international firms on one side and local accounting firms on the other (DeFond, 1992). Only 3 firms (5%) of the companies included in the sample were audited in 2010 by big-four audit firm, 19 (33%) by second-tier international firm and the rest by local firms. This result oppose the results of other research made in other countries were the majority of listed companies are audited by big-four auditor or second tier international firm. The reasons for such market conditions are not further explored and do not represent the interest of this paper.

Publicly available information with the Securities and Exchange Commission on composure of board of directors and appointed auditors at general shareholders meetings was used in order to prepare table 1 and 2.

4. Results

In order to examine the relationship between cross-directorship and auditor choice, two contingency tables were constructed. The contingency table 1 shows the distribution frequencies for selection made by companies with and without cross listed directors for each audit firm. All companies were audited by 15 audit firms, including international second tier and big four auditors. Since the expected frequencies for the table showing clients per each audit firms are very low Fisher exact test of independence and Chi Square-Yates corrected tests are used to test the Ho hypothesis.

In this case the results of both Fisher exact test and Chi Square-Yates test lead to the conclusion that Ho hypothesis can't be rejected at the 5% significance level. This means that there is no significant association between the cross-directorship and the choice of same auditors for companies whose shares are traded at the Macedonian Stock Exchange.

Table 1. Cross-listed directors and selection of each audit firm

Auditor	Companies with cross-listed director	**%**	Companies without cross-listed director	**%**	**Total**
PWC	1	**1,72%**	0	**0,00%**	1
B & Q	7	**12,07%**	5	**8,62%**	12
Bend	3	**5,17%**	0	**0,00%**	3
Grant Thornton	8	**13,79%**	2	**3,45%**	10
Deloitte	1	**1,72%**	0	**0,00%**	1
Dimitrov	1	**1,72%**	3	**5,17%**	4
E.R.C	2	**3,45%**	0	**0,00%**	2
Kojzakliev Pavleska	1	**1,72%**	0	**0,00%**	1
KPMG	1	**1,72%**	0	**0,00%**	1
MSR	1	**1,72%**	0	**0,00%**	1
Moore Stevens	4	**6,90%**	5	**8,62%**	9
Pelagoniska	4	**6,90%**	0	**0,00%**	4
Rafajlovski	0	**0,00%**	4	**6,90%**	4
Revizor Babamov	2	**3,45%**	0	**0,00%**	2
Trio Consulting	3	**5,17%**	0	**0,00%**	3
	39		**19**		**58**

Statistics: Chi-Square Yates; df=14, value=10.893, P=0.694
Fisher exact test; P-value=1, α=0.05

In order to be certain with the results another contingency table 2 has been prepared which shows frequency distribution for two groups of audit firms, international (containing second tier and big four) and local.

Table 2. Cross-listed directors and selection of international and domestic audit firms

Auditor	With cross-listed director	%	Without cross-listed director	%	Total
International Firms	15	**25,86%**	7	**12,07%**	22
Domestic	24	**41,38%**	12	**20,69%**	36
	39		**19**		**58**

Statistics: Chi-Square; df=1, value=0.014, P=0.905

5. Conclusion

From the results presented it can be concluded that the links between companies with same audit firm can't be sufficiently explained with cross listed directors present in their board of directors. The evidence provided in this paper support the conclusion that audit quality and auditor independence is not questioned by factors such as cross listed directors and ties with audit firm partners when Macedonian companies are in question. Although, there were cases in the sampled companies with cross listed directors where those companies were audited by the same auditor, such cases are incidence and couldn't support our assumption of significant association between analyzed variables.

The results of the study provide useful insight into corporate governance structures and practices in Republic of Macedonia, since auditors' independence and audit quality are important instance of good corporate governance. By being independent of board members auditors in Republic of Macedonia are able to effectively perform annual audit assignments and non-executive board members monitor organizational performance. However, this research paper does not provide conclusive evidence in respect of overall independence of auditors in Republic of Macedonia, since other factors such as audit fees, rotation practices, quality control and overall audit regulatory framework are not taken into consideration.

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The Social-Financial Responsible Reporting – The Key for Integrated Reporting

Iulia Jianu[1]

Abstract: General purpose of financial statements is to satisfy the needs of users who are not in the position to require of the entity to prepare reports tailored to their particular information needs. Because the public is one of these users interested of social information and because the financial statement do not provide sufficient social information to satisfy these needs, the study demonstrate the need to integrate the responsible social reporting into financial reporting. In order to support this reason, taking into account the data supplied by the entities listed on the Global Reporting Initiative regarding the corporate social responsibility. The results of the study show that social indicators can be disclosed in a monetary form which reinforces the need for their integration into financial reporting and the need to define a new concept: the social – financial responsible reporting.

Keywords: accounting; CSR; evaluation; GRI; social responsibility

JEL Classification: M14, M41

1. Introduction

Recent years are marked by exerting a strong pressure on economic entities listed on the major stock exchanges, but also on the regulating institutions to improve the quality of corporate reporting. On the grounds of this pressure, more and more entities promote social responsibility or environmental and social reporting. Accounting does not treat these issues separately, information on environmental and social responsibility being found through the resources used in production. There are germs that confirm that the model of reporting the activity of an entity tends to expand in order to respond to changes of information needs. Descriptive information seems, at least for now, to be the answer of regulators all around the world to the more clearly and present requirements of the users of accounting information.

If it is considered the crucial role (which is existential for the life of entity) of information systems, in which accounting rises at the level of economic entity, its

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redesign, its value readjustment to new aspects related to social and environment must be accepted. Standardization activity should not be viewed through the prism of conservatism, an idea that in the domain of management sciences seems not to operate at the level of objectivity achieved in exact sciences, but it has to be accepted the change and to promote it in the on-going attempt to capture and play as exact as possible the reality of the present time. Researches in recent years regarding the reports made by the entities have highlighted the growing concern to identify and develop new ways of presenting information to facilitate voluntary and qualitative reporting of factors related to social responsibility.

Nowadays, the importance of information on matters of corporate entities is growing. Indicators and internal reports relating to social responsibility issues have contributed to the reorientation of external reporting so that such information should be presented. These actions are carried out both within the organization and especially in cooperation and in favour of local or regional communities, according to the scale and scope in which that entity operates. Such information is produced from two directions (*Figure 1*): the first comes from within, by presenting issues related to human resource, to the promoted social conditions of work, and the second one comes from the adjacent environment of organization, from the micro social with which it reacts through partnerships and common concerns, by providing support and security, through credibility and perspective towards and for the population and the area from the field of action.

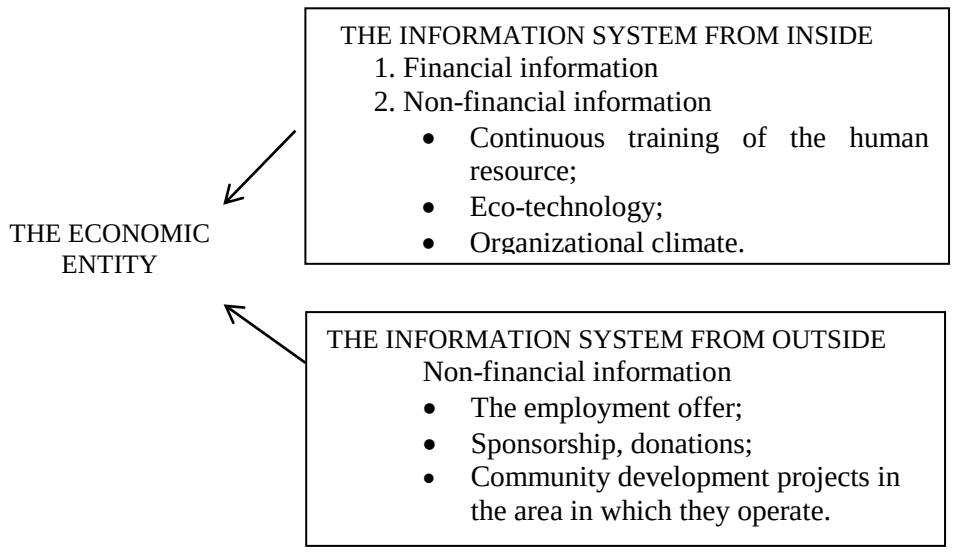

Figure 1. The image of the economic entity

Companies around the world began to realize that their investors are not only interested in financial reporting. As Tschopp (2005) noted, the strong desire for money and service have been replaced with compassion and sustainability. This signifies the need for reporting on corporate social responsibility (CSR). The need for informational completeness regarding the external reporting of activities of economic entities, at least at this time, led to expand the scope of traditional financial reporting by providing certain social and environmental aspects in traditional reporting (Hopwood et al, 2010; Mallin, 2009). This type of reporting is named "one reporting" or "integrated reporting".

By presenting information on social responsibility, the entity becomes more credible by showing full transparency on some of the most important aspects of relational triangle: individual, economic entity, society. Eccles and Krzus (2010) consider that integrated reporting adds tremendous value to the company and all of its stakeholders, including shareholders, and also ultimately contributes to a sustainable society. Another reason for using social responsibility is to provide the desired information for decision making to the actors in the economic entity's life. The increase of the importance of social and environmental factors determined many entities to voluntarily provide such information (Ligteringen E. & Arbex N, 2010). These entities promote their social and environmental achievements either in annual reports or in separate stand-alone reports. Entities in areas such as energy, forestry, manufacturing industry use this type of reporting to answer critics against them. The problem related to the social responsibility reporting is that without the benefit of comparability, given by a common core of development, this report still cannot provide proper information about the position of the entity. Without regular reporting standards or guidelines to follow, the current reporting on social responsibility is nothing but a marketing strategy of the entity.

A solution to the problem described above is the GRI, which was created in 1997 by some of the companies and organizations that belong to CERES (Coalition for Environmentally Responsible Economies), with the mission to develop global guidelines for economic, social and environmental performance reporting, initially for corporations, and now also for small and medium-sized entities, governmental or nongovernmental organizations. Currently, GRI is the best known framework for voluntary reporting on environmental and social terms, being used worldwide (in over 65 countries). The purpose of GRI is to harmonize the many existing reporting systems and to provide a platform for an active dialogue about what sustainable performance is. According to Brown et al. (2009), GRI was created taking into account the U.S. financial reporting system FASB, which has sought to expand it in terms of depth (global), purpose (social, economic and environmental performance indicators), flexibility (descriptive and quantitative indicators) and in terms of public interest (industry, financial sector, accounting profession, civil society, NGOs working on human rights and environment and other stakeholders).

The main reason why such a project developed was the lack of current instruments reporting of what was really happening in the entities and the lack of highlighting the concerns and concrete actions undertaken by them.

Taking into account the data supplied by the entities listed on the Global Reporting Initiative regarding the corporate social responsibility, this study, based on a regulatory-type research, defines a new concept "social – financial responsible reporting", analyses if social indicators can be financially disclosed, militates for the integration of the social reporting into financial reporting, tries to demonstrate the need for resizing financial reporting in order to integrate the responsible social reporting.

2. Research Methodology

The study is based on a regulatory-type research that establishes connections with the inductive accounting theory and uses scientific methods to identify the theoretical and practical aspects of corporate social reporting. In this context, this study captures interesting aspects of social standards and looks at the issues required for reporting in terms of recipients of accounting information. As a result of the study, it was determined the way in which the social factors affecting the economic entity are identified and quantified in order to include them in another type of reporting: the social – financial responsible reporting.

The data on social responsibility which are used in this study were obtained from the GRI portal (http://www.globalreporting.org/ReportServices/GRIReportsList/) where the economic entities are presented and whose social responsibility reports have been either checked by the GRI, or voluntarily introduced by entities, or identified by the GRI from Internet searches. The mandatory requirement for entities to be presented on the website of the GRI is that in the social responsibility report, the content with the reporting indicators should be identified (GRI Content Index). Until the date of data collection, a number of 587 economic entities were posted on the GRI portal.

The indicators recommended by GRI to appear in the social responsibility report are mandated to guide the content of the report and not to offer solutions on how data can be collected for the presentation or calculation of indicators. The importance and recognition that GRI has gained worldwide, determined us to choose this system of reference as the basis for the study of social responsibility reports. A general impression of how indicators are presented in the CSR reports of entities under study is that some of them use the GRI guidelines as a template for their reports, while others use them only as a source of inspiration. Depending on the number and type of presented indicators, there are three levels of applicability of the recommendations developed by the GRI guidelines: A (all indicators

recommended by GRI must present and, in the case of absence of certain indicators, the reason of absence must be justified for each indicator), B (at least 20 indicators must be present, with the requirement that there is at least one indicator of economic and environment category, and from each category of social indicators) and C (at least 10 indicators must be present, with the requirement that there is at least an indicator of each category of social indicators). When social responsibility report was audited, then at the level of applicability is a "+". The 587 entities reported the next level of applicability for social responsibility report: A + 160 entities, A 65 entities, B + 67 entities, B 101 entities, C + 19 entities, C 96 entities, level unreported for 77 entities and level blank for two entities .

In order to select the entities that present most of indicators recommended by the GRI, it was chosen the economic entities which have an A + applicability level for the social responsibility report. Of these entities only 81 offered access to view social responsibility report. By accessing the 81 reports, it was found that only 48 of them were published in English, the remaining 33 reports were published in another language.

Entities may choose to have their social responsibility reports verified by the GRI, which provides the guarantee of a high degree of transparency of the entity. Out of the 48 reports in English, 4 of them were not verified, 16 reports were checked by GRI and 28 reports were checked by another third party (usually the audit firm). For this study was analysed the 16 reports that were verified only by the GRI on the grounds of a better compliance of the report structure as required in the GRI guidance. Entities whose social responsibility reports were the objectives of this study were presented in Annex 1.

3. Results and Discussions

The objective of financial statements is to provide a true picture of the financial position, of the performance and cash flows of the economic entity to a wide range of users (current and potential investors, financial creditors, employees, customers, suppliers, state and public in general), so the objective of social - financial responsible reporting will be to provide a true picture of the social-financial position, of social - financial performance and of cash flows of an economic entity to the same range of users. At present all information presented in the financial statements is expressed as a monetary following as a descriptive presentation of these to achieve in the notes to financial statements.

Currently, information on CSR can be presented either in a separate report on corporate social responsibility, or in the annual report with financial statements and other corporate governance information presented by entities. For the analysed entities, it has been concluded that most of them (12 entities) present a separate

report on social responsibility while only 4 entities present social and environmental information in the annual report.

Accounting has the capacity to find solutions in order to assess monetary and social information. Therefore, social information that is currently occurring in social responsibility reports can be integrated by evaluation in the financial statements. The performance indicators recommended by the GRI are of three types: economic performance indicators (9 indicators), natural environmental performance indicators (30 indicators) and social performance indicators (40 indicators). Social performance indicators recommended by the GRI, presented in Annex 2, are grouped into four categories: employment and decent work practices (LA), human rights (HR), company (SO) and product liability (PR).

For each of the four categories of social performance indicators: labour practices and decent work (14 indicators), human rights (9 indicators), society (8 indicators) and product responsibility (9 indicators), it was examined the nature of the indicator presented in order to identify whether the analysed entities report financial or non-financial information. It was identified at least one entity presenting a certain indicator by financial information, it was considered that a financial reporting of that indicator is possible. As shown in *Annex 3*, the indicators on labour practices and decent work rank the highest position on the possibility of financial indicators expression (for 79% of the indicators there are entities that financially report the indicator). In descending order of the germs of financial reporting of the social performance indicators, the findings were as follows: indicators of society (50%), indicators on product responsibility (33%) and indicators on human rights (22%).

The study results confirm the possibility of monetary assessment for a large part of the indicators of social responsibility. The financial information and the amounts presented by the assessed entities for reporting social performance indicators are summarized in *Annex 4*. It was found that for 11 out of the 14 indicators on labour practices and decent work there are entities to report financial information. As regards to human rights indicators, the number of those expressed as currency is the smallest: 2 indicators out of the total number of 9. In the case of indicators on the society, it is noted that for half of the total number of related indicators, that is 4 indicators out of 8, there are entities that report financial information. As for the indicators of product responsibility, for 3 indicators out of a total of 9, there are entities that present financial information for reporting indicators.

Even if for each entity the number of the indicators expressed as a monetary number is less than 10%, the value of indicators of social performance is significant for most entities, this because, as it can be seen from *Table 1*, for 4 entities, the value of social performance indicators that are financially expressed

exceeds the profit made by the entity, while for 6 entities the value of these indicators is significant (more than 5% of the net result).

Table 1. The significance of the social indicators

Entities *(Amount in millions)*	***Labour Practices & Decent Work***	***Human Rights***	***Society***	***Product Responsibility***	***Total social financial responsibility***	***Net income***
S1 ($)	6.133	56.800	838	0	63.771	(268.000)
S2 ($)	-	-	1.300	0	1.300	1.409.000
S3 ($)	-	_	_	-	-	8.196.000
S4 ($)	289.000.000	-	0	0	289.000.000	N/A
S5 ($)	750	-	0	0	750	5.542.000
S6 ($)	97.800	-	2.196	-	99.996	(935.000)
S7 ($)	127.195.000	-	453.871	38	127.648.909	1.700.000
S8 ($)	4.556.000	800.000	112.600	1.102.000	6.570.600	2.288.000
S9 ($)	15.320.000	-	454.900	18.000.000	33.774.900	8.510.000
S10 ($)	5.078.672	13.132.000	-	-	18.210.672	12.718.000
S11 (KRW)	-	-	-	-	-	2.453.000
S12 (€)	-	1.000	8.000	123.000	132.000	1.748.000
S13 ($)	211.460	-	120	-	211.580	1.146.000
S14 (£)	180	15.546	4.246	-	19.973	295.000
S15 (€)	7.585	-	9.124	-	16.710	289.000
S16 (SEK)	-	-	-	-	-	13.448.000

It is worth noting that a number of 3 entities present all the indicators in a descriptive manner although the nature of some of them required a financial overview, for example: PR9 - the monetary value of significant fines for violations of laws and regulations on the supply and use of products and services, SO6 - the total amount of financial contributions to political parties, politicians, and institutions related to the country, SO8 - monetary value of significant fines and total number of non-monetary penalties for violations of laws and regulations. For two entities, the value of social performance indicators that are financially expressed is insignificant in relation to the profit obtained by the entity, while for the entity the calculation could not be performed because of failure to present the net income value in the social responsibility report.

The results of this study showed that there is a tendency of reporting financial information in the reports of social responsibility not only for indicators that are financial in nature, but for the indicators whose nature is descriptive. The possibility of transforming non-financial information, from the content of socially responsible reporting, in financial responsible information, can be achieved through assessment, which will contribute to a better presentation of social-financial position and performance of the entity.

The evaluation is the process by which it is determined the value at which the items of financial statements are recognized in accounting and disclosed in the balance

sheet and profit and loss account. At this time, the measurement at fair value seems to gain importance (Jianu, 2009). On this background, the focus of future evaluations can be the intention to propose methods for evaluating the activities of social responsibility in order to separately highlight them in profit and loss account or, why not, to recognize them in the balance sheet.

The existence of a common and unique reporting through financial statements on the economic, social and environmental aspects is relevant and reliable because the accounting has the capability to present information not only financially, but also descriptively, thus showing the extent to which the entity is involved in environmental social actions, how much the entity has to pay for such actions and how the result is influenced by social and environmental protection actions promoted by entities. Currently, according to IAS 1 "Presentation of Financial Statements", expenditure can be classified in the profit and loss account either on the nature of expenses: expenses on raw materials, labour expenses, amortization and depreciation expenses, electricity and water expenses, etc., or on the functions of the entity: production, administration, distributions (possibly research - development for entities that perform such activities). The solution proposed for the separate disclosure of social expenses and of environmental protection consists of their analytical highlight in management accounting by creating two distinct functions of collecting expenses: the social and ecological function.

Starting from the already proven premise that social responsibility activities contribute to the increase of financial performance, it can go much deeper into questioning accounting recognition and assert that social responsibility activities could be recognized in the balance sheet by respecting the definition of assets and liabilities in the IASB accounting concepts (*Table 2 and Table 3*).

Table 2. Recognition of social responsibility activities as assets

Categories CSR Elements	*Controlled resource*	*Result of past events*	*Entries of future economic benefits*
Labour practices and decent work	Collective work contract; Records of staff appraisal activity	Signing the documents that give the right to work in the entity	Improving the processes undertaken at the level of entity => profit growth
Human rights	Rules of organization and functioning; State functions; Job description.	Establishing the organization and functioning of the human resources in the entity by the personnel structure	Improving the process of a dignified, educated and treated with responsibility human resource => profit growth
Society	Strategic objectives; Framework contracts related to the involvement of the entity in society	Actions of the management entity	Improving the image of the entity in society => increasing the business turnover

Product responsibility	Product formulation; Product quality standards.	Regulations in the fields of health and consumer protection	Increasing the number of costumers => increasing the business turnover

Table 3. Recognition of social responsibility activities as liabilities

Categories CSR Elements	*Present obligation*	*Result of past events*	*Outflows of future economic benefits*
Labor practices and decent work	Severance payment; Sick leave and health insurance payments.	Insurance in case of dismissal, illness, death	Cash outflow by obligations paying
Human rights	Moral damages and repairs for violation of human rights against employees	Creating the event that generates damages	Cash outflow by obligations paying
Society	Solving and eliminating the consequences caused by environmental degradation; Failure to comply with the legal obligations and with what one promised.	The legal framework for environmental protection, obligations towards the state authorities and business partners	Cash outflow due to non- compliance with obligations
Product responsibility	Meeting the cost generated by the noncompliance with the rules regarding the impact of products and services on health and consumer protection	Regulations in the fields of health and consumer protection	Cash outflow due to non- compliance with regulations

The information presented for the recognition of social responsibility activities as structures of financial statements may be subject to debate and in-depth for future researches and approaches. At present, there are only proposals by which this study wants to draw attention to the need of creating a different kind of reporting: the social-financial responsible reporting.

4. Conclusions

This study militates for the idea that social responsibility reporting should be integrated into the financial statements, because the management as an accounting science has the ability to adapt to changes and to provide useful and relevant information about the social and the environmental. If it considers the requirements for the quality of the presented financial information, which seem to be met in most reports after long years of financial regulation, it could be shown very easily that the course of a separate reporting regarding social responsibility will be hard and difficult; this, in the case where the user's requirements are at a very high level. Therefore, it can rather build on the framework of financial information than in isolation. The idea of force of the convergence of global financial reporting, which it is about to witness in the near future, is still a strong argument that the

course of the two: financial reporting and social responsible reporting should be jointly and not separately.

This study is explained in terms of the continuous evolution that characterizes both the socio-economic environment of the economic entity, and especially the regulation of financial reporting and of the trend that it now forms. The socio-economic environment is governed by social responsibility issues, and the accounting regulation is governed by convergence, by global standardization. The proposal of this study for social - financial responsible reporting comes to harmonize financial reporting with social responsible reporting by incorporating social responsible reporting in the financial statements.

Is preferred the construction on the skeleton of financial reporting because of its presence in the accounting practice for years, thanks to a highly developed and argued framework, thinking that through the implementation of some aspects promoted by the CSR practices, the universal common social good giants (IASB and FASB, UN) will be unified in action. No one gives up to anything, but each one puts together what he has best and they get a product that complies with the new information needs. Thus, this study gets out of the area of rigidity regarding financial reporting and manages to blur the values raised by subjectivity that characterizes social responsibility reports. It should not omit the issue of costs involved in achieving a single reporting model, implicitly lower than those required for separate reporting.

This approach should not be understood as an acquisition of an area of activity from the portfolio of a body and merging it into another one, it should not be seen as a strange creature, but it should be accepted by reference to the qualities of financial information (understandability, relevance, reliability, comparability) to which it can add the qualities of social responsibility information (transparency, inclusion - meeting the informational requirements for all parties involved and interested in the activity of economic entities). It is a new attribute that contributes to the development of social - financial information imposed by the reality of economic environment. The attribute that contributes to "social emancipation" of the economic entity, is the argument which may decide the steps towards development of economic entities. The proposal of this study for integrating the social responsibility reporting in financial reporting is justified also due to the collaboration of the GRI with the IASB and FASB regulatory bodies, the socially responsible reporting framework significantly being inspired by the conceptual accounting framework.

Praising the valences of the new reporting, by distinctly highlighting the social and environmental costs in accounting, it should not omit the importance of keeping in the notes of the GRI reporting formats, thus having at hand the necessary model to provide additional information, element of practice and social responsibility. The

compliance with GRI format, as well as the activity for data collection necessary for social responsible reporting by the economic entities provide an opportunity for these to consolidate their strengths, and to review issues that seem to not work as they should, and to restructure the organizational structures to respond to new information needs in the business environment.

The social - financial responsible reporting is useful not only to external recipients of the entity, but also within the entity. It is useful for everything that is management, for everything that is socio – professional conditions, for everything that is human resource, for the purpose of the economic approach (profit through quality products and complete satisfaction of actors involved in the activity of the entity) and achieving worldwide performance through proper and responsible information of a public, increasingly more alert to issues related to ecology, mutual help, cooperation and joint development partnerships.

The idea of this study takes shape to present, through evaluation, a socially - financially responsible information, to achieve a reconciliation of different approaches but still close in terms of purpose, to show that it can speak about a unity in diversity. This approach is circumscribed to concerns, more pronounced in recent times, of theorizing the field. It has to be seen in the social - financial responsible reporting the theory that can fully promote the valences of the social science that is called accounting. On this background, the empirical and constructivist approaches may bring to light the evidences that this regulatory-type approach offered for acceptance. It is the main message of this paper, by the fact that even if we live, work, create, and evolve in different societies, we are united under the aspect of civilization.

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Annex 1

Cod of the entities	Name of the entities	Country	Activity sector	Report pdf/html adress
S1	AngloGold Ashanti	South Africa	Mining	http://www.anglogold.co.za/subwebs/informationforinvestors/reports09/SustainabilityReview09/default.htm
S2	CEMEX	Mexico	Construction	http://www.cemex.com/pdf/SDR2009/CX_SDR2009_eng.pdf cemex.com/sustainability/reports
S3	CLP	China	Energy	https://www.clpgroup.com/ourvalues/report/Pages/sustainabilityreport.aspx
S4	GoLite LLC	United States of America	Textiles and Apparel	http://www.golite.com/resources/pdf/CSR_2009_Report_HR.pdf
S5	Hong Kong Exchanges and Clearing	China	Financial Services	http://www.hkex.com.hk/eng/exchange/csr/csr_report/Documents/efinalCSR09.pdf
S6	ING Group	Netherlands	Financial Services	http://www.ingforsomethingbetter.com/publications/report/
S7	Itau Unibanco	Brazil	Financial Services	http://ww13.itau.com.br/portalri/index.aspx?idioma=ing
S8	Rabobank	Netherlands	Financial Services	http://www.annualreportsrabobank.com/
S9	Roche	Germany	Healthcare Products	www.roche.com/investors/annual_reports http://ir2.flife.de/data/roche/igb_ht

				ml/index.php?bericht_id=1000004&lang=ENG
S10	Royal Dutch Shell	Netherlands	Energy	http://www.shell.com/home/content/environment_society/reporting/
S11	Samsung Securities	Republic of Korea	Financial Services	http://english.samsungfn.com/download/pdf/csr_2009e_full.pdf
S12	SAP	Germany	Other	http://www.sapsustainabilityreport.com
S13	Suncor Energy	Canada	Energy	http://www.suncor.com/en/responsible/1434.aspx
S14	The cooperative	United Kingdom	Retailers	http://www.co-operative.coop/sustainabilityreport
S15	TNT	Netherlands	Logistics	http://group.tnt.com/annualreports/annualreport09/annex/annex-2-global-compact-and-gri-g3-index.html http://group.tnt.com/annualreports/annualreport09/index.html
S16	Vattenfall	Sweden	Energy Utilities	http://www.vattenfall.com/en/file/2-20100331-094929.pdf

Annex 2

Labour Practices & Decent Work (LA)
LA1 : Total workforce by employment type, employment contract, and region LA2: Total number and rate of employee turnover by age group, gender, and region LA3: Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations LA4: Percentage of employees covered by collective bargaining agreements LA5: Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements LA6: Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs LA7: Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region LA8: Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases LA9: Health and safety topics covered in formal agreements with trade unions LA10: Average hours of training per year per employee by employee category LA11: Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings LA12: Percentage of employees receiving regular performance and career development reviews LA13: Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity LA14: Ratio of basic salary of men to women by employee category
Human Right (HR)
HR1: Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening

HR2: Percentage of significant suppliers and contractors that have undergone screening on human rights ant actions taken HR3: Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained HR4: Total number of incidents of discrimination and actions taken HR5: Operations identified in which the right to exercise freedom of association or collective bargaining may be at significant risk, and actions taken to support these rights HR6: Operations identified as having significant risk for incidents of child labour, and measures taken to contribute to the elimination of child labour HR7: Operations identified as having significant risk for incidents of forced or compulsory labour, and measures taken to contribute to the elimination of forced or compulsory labour HR8: Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations HR9: Total number of incidents of violations involving rights of indigenous people and actions taken
Society (SO)
SO1 : Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting SO2: Percentage and total number of business units analysed for risks related to corruption SO3: Percentage of employees trained in organization's anti-corruption policies and procedures SO4: Actions taken in response to incidents of corruption SO5: Public policy positions and participation in public policy development and lobbying SO6: Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country SO7: Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes SO8: Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations
Product Responsibility (PR)
PR1: Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures PR2: Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes PR3: Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements PR4: Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes PR5: Practices related to customer satisfaction, including results of surveys measuring customer satisfaction PR6: Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship PR7: Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes PR8: Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data PR9: Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services

Annex 3

Entities	**Labour Practices & Decent Work (LA)** Performance Indicators													
	Employment			Labour/ Management Relations		Occupational Health and Safety				Training and Education			Diversity and Equal Opportunity	
	LA 1	**LA 2**	**LA 3**	**LA4**	**LA5**	**LA 6**	**LA 7**	**LA 8**	**LA 9**	**LA 10**	**LA 11**	**LA 12**	**LA 13**	**LA14**
S1	N	N	N	N	N	N	N	F	N	N	F	N	N	N
S2	N	N	-	N	N	-	N	N	-	N	-	-	N	N
S3	N	N	-	-	-	-	N	N	N	-	N	-	-	-
S4	N	N	N	N	N	N	N	N	N	N	N	N	F	N
S5	N	N	N	N	N	N	N	F	N	N	N	N	N	N
S6	N	N	F	N	N	N	N	N	F	N	-	N	-	N
S7	N	N	F	N	N	N	N	F	N	N	F	N	N	N
S8	F	-	-	N	N	-	F	-	-	N	N	F	N	N
S9	N	N	F	N	N	N	N	F	N	F	N	N	N	N
S10	N	N	N	N	N	F	F	N	-	N	N	N	N	F
S11	N	N	N	N	N	-	N	N	N	N	N	N	N	N
S12	N	N	N	N	N	N	N	N	N	N	N	N	N	N
S13	N	N	F	N	N	N	N	N	N	F	F	N	N	N
S14	N	N	N	N	N	N	N	N	N	N	F	-	N	-
S15	N	N	-	N	N	N	N	N	-	N	-	-	N	F
S16	N	N	N	N	N	N	N	N	N	N	N	N	N	N
TOTAL*(79%)	YES	NO	YES	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

Entities	**Human Rights (HR)** Performance Indicators								
	Investment and Procurement Practices			**Non-discrimination**	**Freedom of Association and Collective Bargaining**	**Child Labour**	**Forced and Compulsory Labour**	**Security Practices**	**Indigenous Rights**
	HR 1	**HR 2**	**HR 3**	**HR4**	**HR5**	**HR6**	**HR7**	**HR8**	**HR9**
S1	F	N	N	N	N	N	N	N	N
S2	-	N	-	N	N	N	N	-	-
S3	-	-	-	-	-	-	-	-	-
S4	N	N	N	N	N	N	N	N	N
S5	N	N	N	N	N	N	N	N	N
S6	N	N	N	-	N	N	N	-	-
S7	N	N	N	-	N	N	N	N	N
S8	F	N	-	N	N	N	N	-	-
S9	-	N	N	N	N	N	N	N	N
S10	F	N	N	N	N	N	N	N	N
S11	N	N	N	N	N	N	N	N	N
S12	N	N	F	N	N	N	N	-	-
S13	N	N	N	N	N	N	N	N	N
S14	F	N	N	N	N	N	N	-	N
S15	N	N	N	-	N	N	N	-	-
S16	-	N	N	N	N	N	N	-	-
TOTAL*(2	YE	NO	YE	NO	NO	NO	NO	NO	NO

2%)	S		S						
Entities	**Society (SO)** Performance Indicators								
	Community		**Corruption**			**Public Policy**		**Anti-Competitive Behaviour**	**Compliance**
	SO1		**SO2**	**SO3**	**SO4**	**SO5**	**SO6**	**SO7**	**SO8**
S1	N		N	N	N	N	F	N	F
S2	N		N	N	N	N	-	N	F
S3	N		-	-	-	N	-	-	-
S4	N		N	N	N	N	N	N	N
S5	N		N	N	N	N	N	N	N
S6	F		N	N	N	N	N	N	N
S7	F		N	N	N	F	N	N	F
S8	F		-	-	N	N	-	-	N
S9	F		N	N	N	N	N	N	N
S10	N		N	N	N	N	N	N	N
S11	N		N	N	N	N	-	-	N
S12	F		N	N	N	N	N	N	F
S13	F		N	N	N	N	F	N	N
S14	F		-	-	-	F	F	N	N
S15	F		N	N	N	N	-	-	N
S16	N		N	N	N	N	N	N	N
TOTAL*(50%)	YES		NO	NO	NO	YES	YES	NO	YES
	Product Responsibility (PR) Performance Indicators								
Entities	**Customer Health and Safety**		**Product and Service Labelling**			**Marketing Communications**		**Customer Privacy**	**Compliance**
	PR1	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**
S1	N	-	N	-	-	N	-	-	N
S2	N	-	N	-	N	N	-	-	N
S3	-	-	-	-	-	-	-	-	-
S4	N	N	N	N	N	N	N	N	N
S5	N	N	N	N	N	N	N	N	N
S6	-	N	N	-	-	N	-	N	N
S7	N	N	N	-	N	N	-	N	F
S8	N	-	F	-	N	N	-	N	N
S9	N	N	N	-	N	F	N	-	N
S10	N	N	N	-	N	N	-	-	N
S11	N	N	N	N	N	N	-	N	-
S12	N	-	N	-	N	N	-	N	F
S13	N	N	N	N	N	N	-	N	N
S14	N	-	N	-	N	N	-	-	N
S15	N	-	N	-	N	N	-	-	N
S16	N	-	N	-	N	N	N	N	N
TOTAL*(33%)	NO	NO	YES	NO	NO	YES	NO	NO	YES

NOTE: N – there are entities who report financial information about the indicator
F – there are not entities who report financial information about the indicator
"-" the indicator is not disclosed but the entity justifies his non-disclosure
*„YES" – if there is at least one entity having a financial indicator
„NO" - if there is not at least one entity having a financial indicator

Annex 4

Indicators		**Labour Practices & Decent Work (LA)**	**Amount**
Employment	**LA1**	Staff costs (S8)	3.869.000.000 €
	LA3	Remuneration costs in 2009 amounted to 12 billion Swiss francs (S9) Employee benefits (S13)	12.000.000.000 CHF 201.000.000 $
Occupational Health and Safety	**LA6**	Contributes to a fund in a five-year programme to improve road safety (S10) Contributes to Global Road Safety Partnership (S10)	10.000.000 $ 750.000 $
	LA7	Direct costs of absenteeism representing continued payment of salary during illness (S8) Environmental expenditure (S9) Improving the safety and reliability of our operations continued during the economic downturn (S10)	117.000.000 € 86.000.000 CHF 5.000.000.000 $
	LA8	HIV/AIDS programme costs in 2009 (S1) Malaria programme costs in 2009 (S1) The support to the Staff Social Club activities (S5) Advancement, training and development programs (S7)	3.294.376 $ 2.172.541 $ 750.000 $ 117.000.000.000 R$
	LA9	Fixed remuneration for staff, plus their respective charges and benefits (S7) Social benefits for employees and their dependents (S7)	8.600.000.000 R$ 1.500.000.000 R$
Training and Education	**LA10**	Budgets for training (S6) Training spend (S9) Training and development (S13)	97.800.000 $ 146.000.000 CHF 9.672.000 $
	LA11	Management Development Programme and Intermediate Management (S1) Managerial Mastery Programme at the University of Cape Town's Graduate School of Business (S1) Training programs for employees (S7) Education assistance plan (S13) Investment in centrally provided training (S14)	533.000 $ 133.000 $ 95.000.000 R$ 788.000 $ 180.000 £
	LA12	Pension contributions (S8)	570.000.000 €
Diversity and	**LA13**	The trade association representing the amount of	289.000.000.000

Equal Opportunity		the active outdoor recreation industry (S4)	$
	LA14	Compensation for services in all capacities for Directors and Senior Management (S10)	48.895.000 $
		Pension, retirement and similar benefits for Directors and Senior Management (S10)	19.027.000 $
		Total remuneration Board of Management (S15)	7.585.674 €
Indicators		**Human Rights (HR)**	**Amount**
Investment and Procurement Practices	**HR1**	Acquisition of an effective additional 10% interest in the Kibali gold project (S1)	56.800.000 $
		Investment (S8)	800.000.000 €
		Social investment (S10)	132.000.000 $
		Investment on goods and services from locally owned companies in low and middle development countries (S10)	13.000.000.000 $
		Investment for international development and human rights (S14)	822.000 £
		.Ethical Policy training programme (S14)	3,191,000 £
	HR2	Process of benchmarking and monitoring suppliers, partners, and vendors (S12)	1.000.000 €
Indicators		**Society (SO)**	**Amount**
Community	**SO1**	UNICEF projects during the ING Global Challenge (S6)	992.801 $
		US Employee Giving Campaign matched by ING's US Foundation (S6)	1.000.000 $
		ING Vysya Campaign in India,for local charities (S6)	96.000 $
		ING Chances for Children (S6)	107.575 $
		Social and cultural investments (S7)	248.000.000 R$
		Donates (S7)	902.000 R$
		Investments in culture (S7)	39.000.000 R$
		Community investment funds and donations (S8)	54.600.000 €
		Sponsorship of community initiatives (S8)	58.000.000 €
		Programme for development of the local businesses. (S9)	1.900.000 CHF
		Swiss francs in SHE Safety, security, health and environmental protection infrastructure (S9)	159.000.000 CHF
		Safety, security, health and environmental protection operating costs (S9)	294.000.000 CHF
		Donations to non-profit organizations (S12)	8.000.000 €
		Development business ideas from concept to implementation stage (S13)	84.000 $
		Community contribution (S14)	11.300.000 £
		Contributions to to fight global hunger (S15)	7.285.000 €
		Employee donations (S15)	1.839.000 €
Public Policy	**SO5**	Investments in schools (S7)	7.000.000 R$
		Programs to improve education management for students (S7)	17.100.000 R$
			3.495.440 £

		Trade and business association membership fees and donations (S14)	
	SO6	Donation to different political parties (S1) Political donations (S13) Political donation (S14)	488.250 $ 36.900 $ 751.090 £
Compliance	**SO8**	Amounts for damages allegedly (S1) Associated fines (S2) Fines paid for breaching municipal bylaws dealing with service time (S7)	350.000 $ 1.300.000 $ 141.869.160 R$
Indicators		**Product Responsibility (PR)**	**Amount**
Product and Service Labelling	**PR3**	Total portfolio amounted invested in wind energy projects, in solar energy projects and in biofuel projects (S8)	1.102.000.000 €
Marketing Communications	**PR6**	Services like consultancy, travel and marketing (S9)	18.000.000.000 CHF
Compliance	**PR9**	Fines paid for individual complaints about products (S7) Litigation-related provisions (S12)	38.040 R$ 123.000.000 €

Perceived Attributes of Factors Influencing Consumers' Engagement with Electronic Banking

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Abstract: This study intends to critically analyze the relationship between perceived attributes as factors and consumers' engagement with electronic banking technology. A survey method was used to gather data from 200 secondary school teachers from five selected local government in South-Western part of Nigeria namely; Ibadan North, Egbeda, Ido, Ibadan North-East and Ibadan North-West Local government. Data was collected with a structured questionnaire and analyzed with several descriptive statistics to identify consumers' engagement in electronic banking technology in Nigeria. The results of the study therefore reveals that the most common influential factors hindering consumers' adoption of electronic banking in Nigeria are relative advantage of economic gains and non-economic gains, social character, communication behavior, trialability as well as observability. Hence, it therefore recommends that the banks should create channels through which customers' awareness will be enhanced and employ IT trained personnel to monitor and report any fraudulent transaction in order to secure customers' trust on safety risk/security.

Keywords: Electronic banking technology; perceived attributes; Banking sector; Local Government; Nigeria

JEL Classification: G21; G32; H11; H70

1. Introduction

This research explored through various studies, the distribution channels in the financial services with the main focus on perceived attributes of factors influencing consumers' engagement in electronic banking, by examining the extent of its adoption/rejection. That is, instead of investigating the decision of the consumers in adopting or not adopting the internet as a new technological product, but this study tends to look into the extent of adopting the internet as a new technology-based distribution channel with the reference of the researches conducted on diffusion innovation model and technological acceptance model. As internet banking is a relatively new concept in banking service delivery, another theory that may explain operative forces in consumer internet banking adoption is Rogers'

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theory of innovation diffusion (Rogers, 1995) as cited in Williamson & Lichtenstein (2006). Rogers describes five innovation attributes that help explain innovation adoption rates: relative advantage; compatibility (degree to which the service is consistent with the consumer's values, experiences and needs), complexity, trialability (degree to which the service can be experimented with prior to making the decision whether to adopt) and observability (degree to which the service can be observed being successfully used). The technology acceptance model (TAM) developed by Davis (1989) may also be relevant to consumer choices in internet banking adoption. In this model, 'perceived usefulness' and 'perceived ease of use' are the two main influences in user adoption of technologies. More recent studies employing a TAM-base theoretical lens have identified additional constructs that may be influential in internet service adoption. For example, a holistic framework incorporating complex social, psychological and economic elements was recently proposed (Konana and Balasubramanian, 2005).

The secondary school teachers from five selected local government in South-Western part of Nigeria namely; Ibadan North, Egbeda, Ido, Ibadan North-East and Ibadan North-West Local government were used as the case study due to their being involved in the banking transaction for at least ten years and thereby have experience in the use of internet banking.

1.1. Scope and Limitation of the Study

This paper seeks to investigate the relationship between perceived attributes as factors and consumers' engagement with electronic banking technology in Nigeria. The purpose of this study is to come up with a set of influential factors determinates that the adoption/rejection of electronic banking in Nigeria. In this research, focus was only on secondary school teachers from five selected local government in South-Western part of Nigeria. Therefore, the first limitation faced by this study is that the research findings of the adoption/rejection of electronic banking technology in the sample area might not be able to represent the correct situation in the rest of the country. The problem is that the majority of adopters in Nigeria might face different problems from different circumstances.

Another limitation in the research is that since questionnaires are used to collect and investigate the adoption/rejection of electronic banking in Nigeria, the major disadvantage of this method is the inability to interact with respondents (banking customers) in order to ask more detailed and in-depth questions to discover more information as the study permits. This limitation pose a problem for this study as the inability to discover in-depth influenced between perceived attributes as factors and consumers' engagement in electronic banking, and to measure accurately the clear reasons given by each respondents.

However, since this study makes use of primary data, the instruments need to be subjected to more statistical tests in order to establish a more robust validity and reliability. The instruments could be further refined to more closely capture each of the problem areas identified in the literature. It is suggested that that replication of this study should involve larger samples and a broader geographic base for cross-validation purposes.

2. Literature Review

2.1 Adoption of Electronic Banking

It is imperative for adopters to identify the product that will give them higher satisfactory value and innovativeness to the product that meets their needs and demand. This, according to Rogers, (2003), is regarded as "adoption process", consisting of five stages namely perception, curiosity, appraisal, experimental and adoption. In order for this study to infer these characteristics, it will focus on Lockett and Littler's presented model (1997) which is behavioural characteristics based on social interaction and communication behaviour as well as attitude and personality, which all surround the diffusion of innovation theory (Rogers, 2003) .

2.2 Theory of Diffusion of Innovation

The user of new technologies can best be explained with the popular model of Roger's (2003) diffusion of innovation theory. Innovation according to Rogers, (2003) p 262, can be described in terms of perceived attributes, which can be evaluated based on innovation attributes such as relative advantage (perceived usefulness), compatibility, complexity (perceived ease of use), observability and trialability, perceived risk and cost. This is also in line with Davis (1989) who proposed the technology acceptance model (TAM), which established that individual's attitude towards system usage is being influenced by perceived usefulness (PU) and perceived ease of use (PEOU).

3. Methodology and Data

This paper seeks to critically analyze the relationship between perceived attributes as factors and consumers' engagement with electronic banking technology and examine the extent of it adoption/rejection. A survey method was used to gather data from 200 secondary school teachers from five selected local government in South-Western part of Nigeria namely; Ibadan North, Egbeda, Ido, Ibadan North-East and Ibadan North-West Local government. The purpose of this study is to come up with a set of influential factors determinates that the adoption/rejection of electronic banking in Nigeria.

Primary sourced data is the main data used for analysis, as shown in Table 1 below. These were collected using a 17-item/5-point Likert scale questionnaire, administered to the selected secondary school teachers. This did not pose a problem, due to the fact that the questionnaires were administered by customers who has being a banking customers in various banks in Ibadan and who has been operating bank account for at least ten years and have used various products of electronic banking and could give reasons for their adoption or rejection, as well as satisfaction and convenience derived from the adoption of the products.

The study was mainly based on information derived from responses to the questionnaire. Primary data employed for this study were collected from a cross section of the secondary school teachers in the selected local governments. Random sampling technique was used to determine the eligible teachers to be questioned. Data collected was presented in tabular form with descriptive statistic while the hypothesis formulated was tested with correlation and t-test to determine the respondents' perception on the subject matter. This study employed a multi-methodology approach in which both qualitative and quantitative approaches were used. In all, 200 respondents that made up the sample were randomly selected.

Five copies of the first draft of the questionnaire will be handed out to Guaranty Bank staff to look into the aspect relating to banking technicalities; the Principals with the HODs of selected secondary schools in order to look at the relevance of the personal characteristic as well as demographic characteristics of the questionnaire to their working sector; two final year Economics students of Fountain University will look into the grammar as well as the sentence construction and finally, one will be handed to a senior colleague in order to justify the reliability of the questionnaire and again to see how easy and understandable the questionnaire is. After refining some questions, the well-improved questionnaire was developed.

3.1 Statement of Hypotheses

In order to enable the researcher confirm the greatest drawback for the adoption of electronic banking in Nigeria and fully appreciate their respective relevant significance, he had to postulate the following hypotheses:

H0: There is no significance relationship between perceived attributes and consumers' engagement with electronic banking

H1: There is significant relationship between perceived attributes and consumers' engagement with electronic banking

4. Data Analysis and Findings

4.1. Characteristics of the New Technology

This study adapts Rogers' characteristics of new technologies of 2003, which analyzed the new technology characteristics from the perspectives of perceived attributes, such as relative advantage which can be (economic gains or non-economic gains), complexity, perceived risk which can be (error risk or safety risk), compatibility, trialability, cost, and observability.

4.2 Relative Advantage

Relative advantage is the extent at which the adopters take the product more relevant as against its substitutes. Therefore this research has identified that relative advantage on economic gains was an influential factor in determining the adoption of an innovative product, which means that it is directly related to its rate of adoption. This study reveals that there were 43% teachers that agreed to the statement that internet banking increased their purchasing power and enhanced their debt repayments by installments as against 19% teachers that disagreed. This study revealed that the teachers that agreed has much trust in internet banking in carrying out their daily transactions as well as debt repayment without fair. But on the other hand, the relative advantages on non-economic gains were having higher percentage of teachers that agreed but were not in the same proportion with those that agreed with economic gains. Therefore, the relative advantage on economic gains in adopting the electronic internet banking can be measured using item 9 for Economic Gains while non-economic gains can be measured using the item 10 from Appendix A. Table 1 below as well as figure 1 shows the analysis of data collected from the questionnaire.

Table 1. Analysis on the Response of Secondary School Teachers relating to Relative Advantage on Economic Gains/Non-Economic Gains

Respondents based on Relative Advantage on Economic Gains	4	19	6	2	8	43	18
Respondents based on Relative Advantage on Non-Economic Gains	6	28	12	2	2	35	15

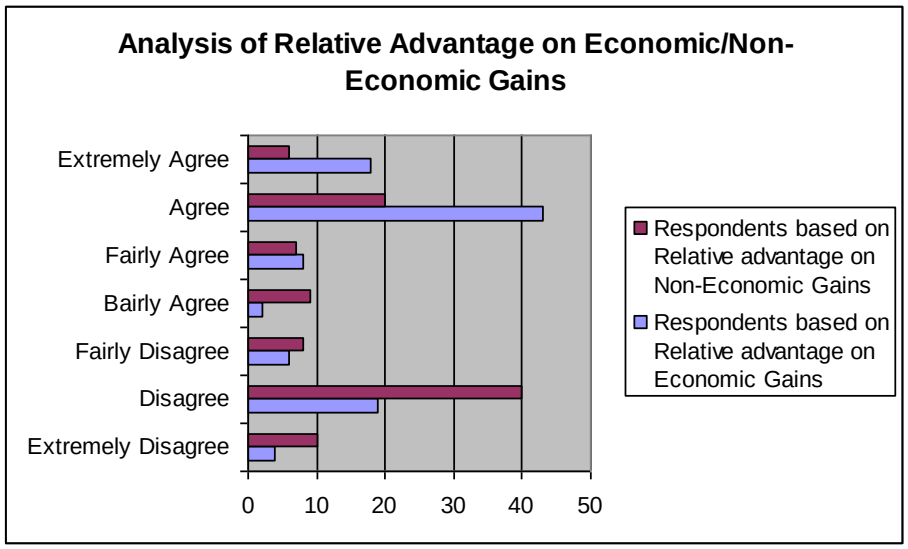

Figure 1 Showing the Responses of Secondary School Teachers relating to Relative Advantage on Economic/Non-Economic Gains

4.3 Complexity

This research reveals the importance of complexity in influencing the adoption of a new innovation but not at higher rate. Complexity being the extent at which the teachers adopt a new innovative product as being difficult to understand. Rogers' analysis on the diffusion of innovation theory revealed that complexity of an innovative product means that the product involves technicalities, greater implementation and operational efforts for the teachers to be able to adopt it. Therefore this research has identified that complexity was an influential factor in determining the adoption of an innovative product, which means that it is directly related to its rate of adoption. This study revealed that there were 36% of the teachers that agreed to the statement that internet banking is clearly, understandable and easy to use as against 30% of the members of teachers that disagreed. This study reveals that the teachers that agreed were educated and that was why it was simple for them to adopt. Therefore, the complexity of the use of internet can be measured using the item 11 from Appendix A. Table 2 below as well as figure 2 shows the analysis of data collected from the questionnaire.

Table 2. Analysis on the Response of Secondary School Teachers relating to Complexity (Put in a table)

	Extremely Disagree	Disagree	Fairly Disagree	Bairly Agree	Fairly Agree	Agree	Extremely Agree
No of Respondents	8	30	2	3	13	36	8
% of	8	30	2	3	13	36	8

Respondents

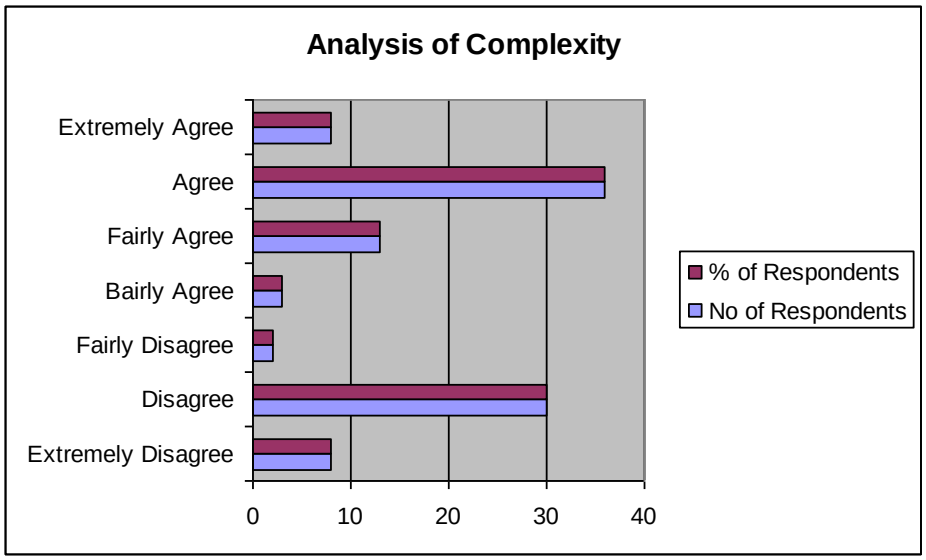

Figure 2 Showing the Response of Secondary School Teachers relating to Complexity

4.4. Perceived Risk

Perceived risk as a one of the factors influencing adoption/rejection of internet banking is the willingness for the teachers to take up the riskiness of an innovation despite the free will to accept or reject the risk as being a very crucial issue adopting innovative internet banking. This study identified Rogers' analysis as he stressed further that the conscious cognizance of the risk taken by the teachers will show the level of trust that teachers has for the product. This study has revealed that the trust a teacher has for adopting/rejecting internet banking could be in measured terms of faith or confidence they have for the adoption/rejection of the internet electronic banking. The research reveals that the teacher's trust in adopting/rejecting the internet banking was as a result of accepting/rejecting risks that surround the product. The perceived risk can be categories into two, which are error risk as well as safety risk. This study reveals that there were 30% of the school teacher perceived error risk, agreed to the statement that internet banking is risky and involves a lot of uncertainties as against 36% of teachers disagreed. This study reveals that the teacher that agreed did not trust the internet banking in carrying out their daily transactions as well as debt repayment without fair. This study reveals from the data analysis that those (36%) teachers that disagree constitutes female staff (25%) because of their not having flair for internet banking. But on the other hand, the perceived safety risk recorded almost a balance

percentage on the analysis. Although, those teachers that agreed to the statement that internet banking implement security measures to protect internet banking adopters have higher percentage of 36% than those teachers that disagreed who has 35% which correspond to the fact that the teachers were independent of the safety risk involved in the use of internet banking. The level of perceived error risk will be measured using item 12 from Appendix A while the level of perceived safety risk will be measured using item 13 from Appendix A. Table 3 below as well as figure 3 shows the analysis of data collected from the questionnaire

Table 3. Analysis on the Response of Secondary School Teachers relating to Perceived Risk on Error/Safety Risk

Respondents based on Perceived Risk on Error Risk	8	36	12	3	3	30	8
Respondents based on Perceived Risk on Safety Risk	8	35	6	1	8	36	6

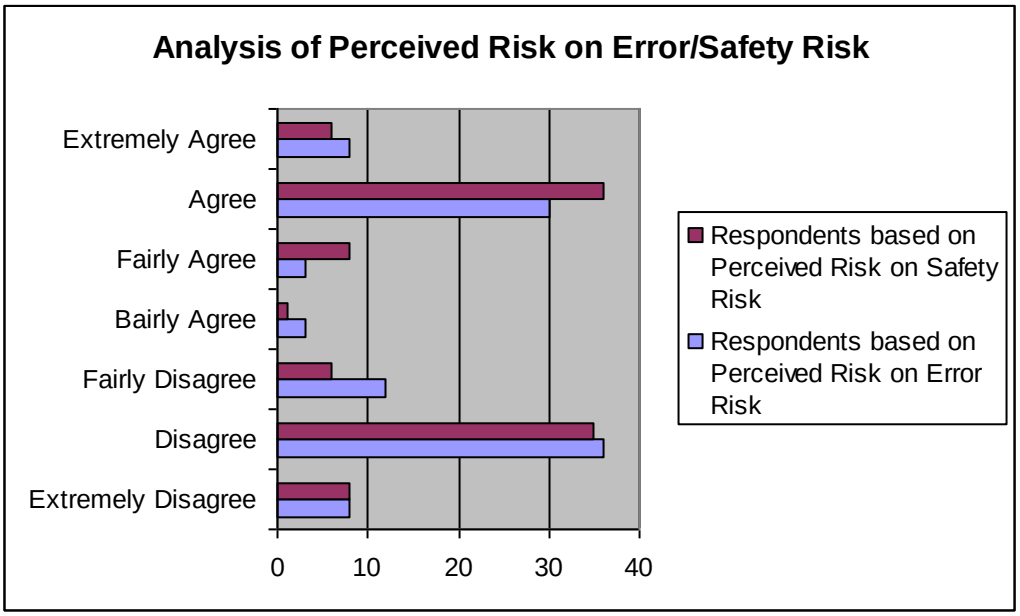

Figure 3 Showing the Response of Secondary School Teachers relating to Perceived Risk on Error/Safety Risk

4.5. Compatibility

Compatibility, as submitted by Rogers (2003), is the extent at which teachers' values, experiences, needs, beliefs and habits for the adoption of a new product is consistent. Rogers' analysis on the diffusion of innovation theory revealed that compatibility of an innovative, which was in line with this research in identifying compatibility as an influential factor in determining the adoption of an innovative product. This study reveals that there were 37% of teachers that agreed to the statement that: using the internet banking for purchases and daily transactions is the same as paying cash, as against 32% of the teachers that disagreed with the statement. The compatibility of the usage of internet banking by the teachers can be measured with item 14 from Appendix A. Table 4 below as well as figure 4 shows the analysis of data collected from the questionnaire.

Table 4. Analysis on the Response of Secondary School Teachers relating to Compatibility

	Extremely Disagree	Disagree	Fairly Disagree	Bairly Agree	Fairly Agree	Agree	Extremely Agree
No of Respondents	9	32	7	2	5	37	8
% of Respondents	9	32	7	2	5	37	8

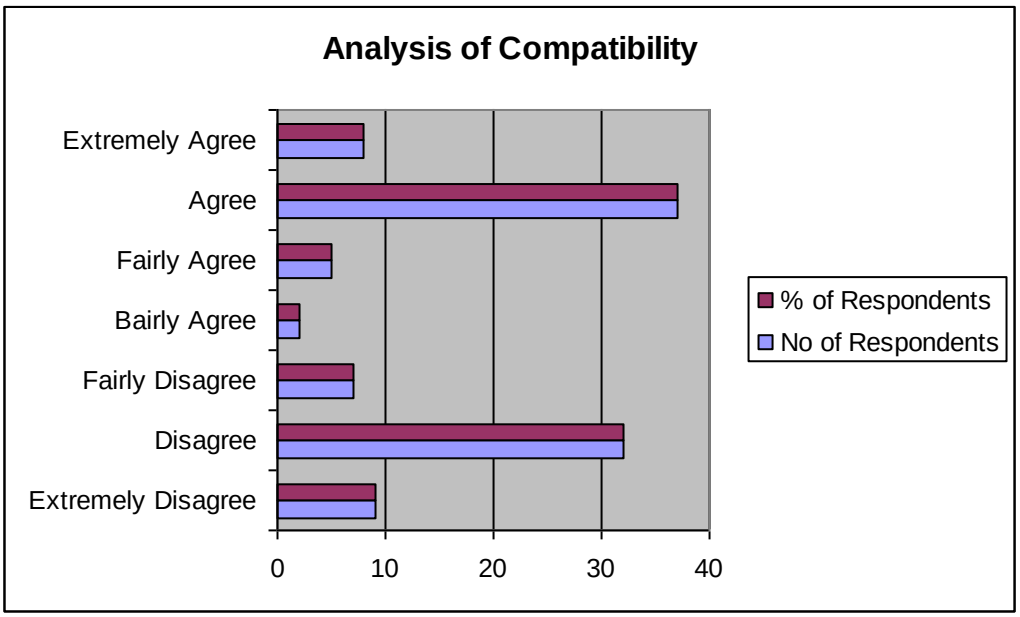

Figure 4 Showing the Response of Secondary School Teachers relating to Compatibility

4.6 Trialability

As submitted by Roger's diffusion of innovation theory on trialability as an influential factor in affecting the adoption/rejection of an innovative product. In it, trialability is the willingness of a staff in taking up a new innovative product in a way of trying the product before getting committed to it. This study reveals that there were 47% of teachers that agreed to the statement that: "I would prefer a trial, using the internet before getting committed with it", as against 13% of the teachers that disagreed with the statement. This research was in agreement with the findings of Lockett and Littler submission in 1997 which stated that the adopters were greater than non-adopters on the issue of trialability. This result reveals that a larger percentage of the teachers were educated and would rather prefer to give a new innovation a trial through reading up the information and searching through the internet so as to know how to go about it. The issue of trialability as to how it influenced the adoption/rejection of the electronic banking product will be measured with item 15 from the Appendix A. Table 5 as well as figure 5 shows the analysis relating to trialability.

Table 5. Analysis on the Response of School Secondary School Teachers relating to Trialability

	Extremely Disagree	Disagree	Fairly Disagree	Bairly Agree	Fairly Agree	Agree	Extremely Agree
No of Respondents	5	13	4	1	8	47	22
% of Respondents	5	13	4	1	8	47	22

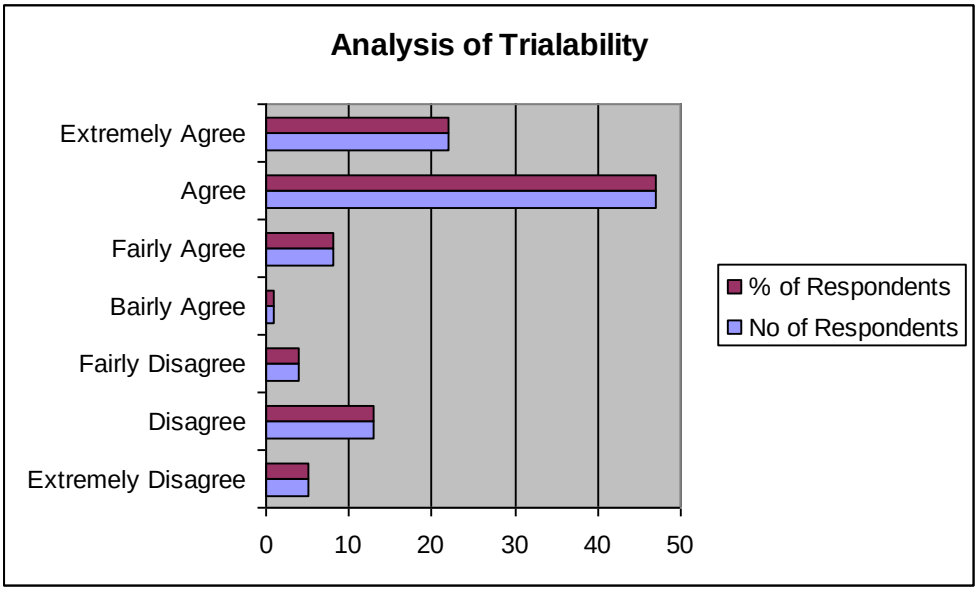

Figure 5. Showing the Response of Secondary School Teachers relating to Trialability

4.7 Cost

This relates to the cost the teachers pay for connecting to the internet (internet connection/subscription fee). This study reveals that there was not much significant difference in cost influencing the adoption/rejection of the internet banking. This is because, the research reveals that 32% of teachers agreed to the statement that: "I prefer paying for the internet connection rather than having to carry cash for my transactions as against 31% that disagreed with the statement. It will be measured with item 16 from Appendix A. Table 6 as well as figure 6 shows the analysis relating to cost of using an internet facilities.

Table 6. Analysis on the Response of Secondary School Teachers relating to Cost

	Extremely Disagree	Disagree	Fairly Disagree	Bairly Agree	Fairly Agree	Agree	Extremely Agree
No of Respondents	6	31	12	2	5	32	12
% of Respondents	6	31	12	2	5	32	12

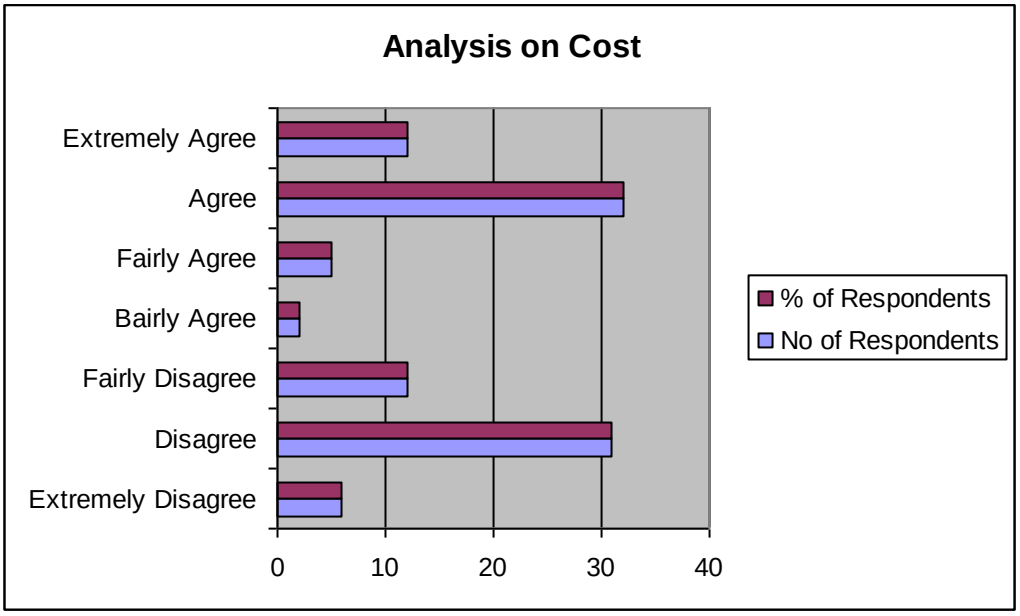

Figure 6 Showing the Response of Secondary School Teachers relating

4.8 Observability

This research reveals the importance of observability in influencing the adoption of a new innovation. This research was in corroboration Roger's submission on diffusion of innovation theory of 2003 where it was stated that observability refers to a product that is visible, conspicuous and communicable will be easily adopted

by the teachers. Rogers' analysis on the diffusion of innovation theory revealed that observability of an innovative product has positive relationship with the rate of adoption and that it is in line with the findings of this research in identifying observability as an influential factor in affecting the adoption/rejection of an innovative product. This study revealed that there were 48% of teachers that agreed to the statement that: "I have seen some members of staff using the internet in their daily transactions", as against 12% of the teachers that disagreed with the statement. There shows a positive relationship between individual's observation based on' perception and rate of adoption of the internet banking. This will be measured with item 17 from Appendix A. Table 7 as well as figure 7 shows the analysis relating to observability.

Table 7. Analysis on the Response of Secondary School Teachers relating to Observability

	Extremely Disagree	Disagree	Fairly Disagree	Bairly Agree	Fairly Agree	Agree	Extremely Agree
No of Respondents	8	12	5	1	6	48	20
% of Respondents	8	12	5	1	6	48	20

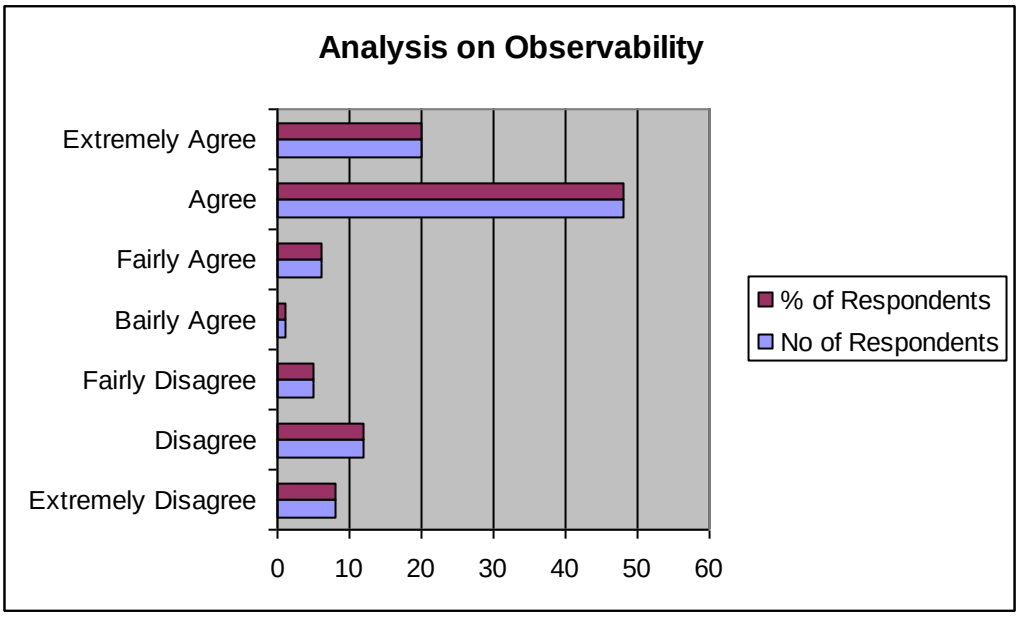

Figure 7 Showing the Response of Secondary School Teachers relating to Observability

Table 8 Showing responses on the relationship between perceived attributes as factors and consumers' engagement with electronic banking technology

Response	Number	Percentage
Strongly Agreed	84	42
Agreed	67	33.5
Undecided	5	2.5
Disagreed	13	6.5
Strongly Disagreed	31	15.5
Total	200	100

Source: Researcher's Survey 2012

From the findings and as indicated in the table 8 above, it shows that majority of the respondents 151 (75.5%) agreed that there is significant relationship between perceived attributes and consumers' engagement with electronic banking.

Table 9. Showing Correlation Analysis Table

x	y	X^2	y^2	xy
1	84	1	7056	84
2	67	4	4489	134
3	5	9	25	15
4	13	16	169	52
5	31	25	961	155
$\Sigma x=15$	$\Sigma y=200$	$\Sigma x^2=55$	$\Sigma y^2=12700$	$\Sigma xy=440$

Source: Field Survey 2012

$$\frac{n\Sigma (X.Y) - (\Sigma X).(\Sigma Y)}{\sqrt{(n\Sigma X^2 - (\Sigma X)^2)(n\,\Sigma Y^2 - (\Sigma Y)^2)}}$$

The result from the correlation coefficient calculation signifies that there is significant relationship between perceived attributes and consumers' engagement with electronic banking.

Table 10. Student t-test table showing the significant relationship between SMEs and Economic Growth and Development

	Mean	Standard Deviation	Correlation	T-cal values	T-tab values
SMEs & Economic Growth and Development	3.0	48.497	0.7	323.87	0.13

5. Conclusion and Policy Recommendations

The results of this study therefore concludes that the most common influential factors hindering consumers' adoption of electronic banking in Nigeria are relative advantage of economic gains and non-economic gains, social character, communication behavior, trialability as well as observability. However, with reference to this study, it will be recommended that the banks whose customers adopt the electronic banking products especially internet banking, must create channels through which customers' awareness will be enhanced. Banks can do this through marketing strategies such as organizing campaigns, media advert through radio and television, organizing services at the kiosks at the customers' service centre or reception in banks. Furthermore, this study has revealed that in order to boost the percentage of adopters of electronic banking products (internet banking), banks should provides some incentives or inducements such as reduction in the transaction cost so as to boost customers' interest in engaging in online transactions, educating and encouraging the customers in monitoring their bank accounts online, providing enough information on the banks' website so that it will not be difficult for the customers in accessing their accounts through the internet. However, in order to accomplish this task, this study has identified that banks should employ IT trained personnel to monitor and report any fraudulent transaction in order to secure customers' trust on safety risk/security.

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Mathematical and Quantative Methods

The Problem of Efficiency of the Consumption or Production

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Abstract: The consumption efficiency or production respectively, is of particular importance in the view of Pareto efficiency. The classical analysis for two goods or two factors of production, is based on the Edgeworth's box that allows determining the optimal quantity, and price equilibrium. The analysis which will follow, will deal this problem for the case of n goods or inputs, obtaining a general method for determining the optimal quantities, namely the equilibrium price using a series of relatively basic geometric tools.

Keywords consumption; production function; Edgeworth

JEL Classification: D01

1. Introduction

The consumption efficiency or production respectively, is of particular importance in the view of Pareto efficiency.

The classical analysis for two goods or two factors of production, is based on the Edgeworth's box that allows determining the optimal quantity, and price equilibrium.

The analysis which will follow, will deal this problem for the case of n goods or inputs, obtaining a general method for determining the optimal quantities, namely the equilibrium price using a series of relatively basic geometric tools.

2. The Efficiency of the Consumption

Consider, in the following, two consumers A and B and a number of n goods $B_1,...,B_n$ available in the quantities $c_1,...,c_n$, for which we know the utility functions of A, respectively B as follows: $U=U_A(x_1,...,x_n)$ and $U=U_B(x_1,...,x_n)$ for consumption of x_k good units of B_k, $k=\overline{1,n}$.

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We assume below that the utility functions are of class C^2 on the inside space consumption $SC=\{(x_1,...,x_n) \mid x_i \geq 0,\ i=\overline{1,n}\}$. It is also known that the utility functions are concave, so the marginal utility is decreasing.

We will build in what follows **the Edgeworth's box** that is a n-dimensional parallelepiped: $[0,c_1]\times...\times[0,c_n]$, the quantities relative to A being relative to the origin O(0,...,0) and those appropriate to B to the point $F(c_1,...,c_n)$ on segments that define the n-dimensional parallelepiped.

Let an initial allocation of consumption for A and B:

$$x_A=(\alpha_1,...,\alpha_n),\ x_B=(\beta_1,...,\beta_n)$$

where $\alpha_k+\beta_k=c_k$, $k=\overline{1,n}$ (*A and B consume all the available products*).

The utilities consumption corresponding to the first two vectors are therefore: $U_{A,0}=U_A(\alpha_1,...,\alpha_n)$, respectively $U_{B,0}=U_B(\beta_1,...,\beta_n)$ relative to A, respectively F.

Since $\beta_k=c_k-\alpha_k$, $k=\overline{1,n}$ we have: $U_{B,0}=U_B(c_1-\alpha_1,...,c_n-\alpha_n)$. The B's utility function is then, relative to A:

$$U=U'_B(x_1,...,x_n)=U_B(c_1-x_1,...,c_n-x_n)$$

Let note that the notation U'_B is the expression of U_B relative to the origin of the coordinate axes and not the derivative of U_B (*which otherwise do not exist globally*). From now on, during the presentation of the problem, we consider the utility function of B of this form.

We now have:

$$U'_{Bm,i}=\frac{\partial U'_B}{\partial x_i}=\frac{\partial U_B(c_1-x_1,...,c_n-x_n)}{\partial x_i}=-\frac{\partial U_B}{\partial x_i}=-U_{Bm,i},\ i=\overline{1,n}$$

$$\frac{\partial^2 U'_B}{\partial x_i \partial x_j}=\frac{\partial}{\partial x_j}\left(-\frac{\partial U_B(c_1-x_1,...,c_n-x_n)}{\partial x_i}\right)=\frac{\partial^2 U_B}{\partial x_i \partial x_j},\ i,j=\overline{1,n}$$

so the function U'_B is still concave, but it has negative partial derivatives.

Considering the isoutilities hypersurfaces, follows that (relative to O) those of A is convex, while that of B is concave.

Let $ZU_{A,0}=\{(x_1,...,x_n)\in SC \mid U_A(x_1,...,x_n)\geq U_{A,0}\}$ – the consumer zone of A with higher utility than $U_{A,0}$ and $ZU_{B,0}=\{(x_1,...,x_n)\in SC \mid U'_B(x_1,...,x_n)\leq U'_{B,0}\}$ – the consumer zone of B with higher utility than $U_{B,0}$. Assume now that int $\left(ZU_{A,0}\cap ZU_{B,0}\right)\neq\varnothing$ (*int - the inside of set, i.e. those points for which exists an n-dimensional cube centered in them and small enough side included in the given set*).

Let also $\Gamma(\gamma_1,...,\gamma_n)\in \text{int}\left(ZU_{A,0}\cap ZU_{B,0}\right)$ and consider the straight line which passing through the origin and Γ. Let note $\Psi(\psi_1,...,\psi_n)$ – the intersection with the utility hypersurface $U_A=U_{A,0}$ and with $\Omega(\omega_1,...,\omega_n)$ – the intersection with the utility hypersurface $U_B^{'}=U'_{B,0}$. We therefore have: $U_A(\psi_1,...,\psi_n)=U_{A,0}$ and $U_B^{'}(\omega_1,...,\omega_n)=U'_{B,0}$. Since $(\gamma_1,...,\gamma_n)>(\psi_1,...,\psi_n)$ from the P.7 axiom of the relationship of preference ([2]) follows that $\Gamma\succ\Psi$ (Γ is preferred to Ψ relative to the consumer A) so $U_A(\Gamma)>U_A(\Psi)=U_{A,0}$. Similarly, $(\gamma_1,...,\gamma_n)<(\omega_1,...,\omega_n)$ implies $\Gamma\succ\Omega$ relative to the consumer B) therefore $U_B^{'}(\Gamma)<U_B^{'}(\Omega)=U'_{B,0}$.

Following these considerations, we have that if $\text{int}\left(ZU_{A,0}\cap ZU_{B,0}\right)\neq\varnothing$ then each of the two consumers can enhance their utility, so the initial allocation is not optimal.

We will call Pareto efficiency where no consumer allocation can improve without affecting other interests.

From the above, Pareto efficiency is achieved that when the utility hypersurfaces become tangent.

The condition of tangency for $U=U_A(x_1,...,x_n)$ and $U=U_B^{'}(x_1,...,x_n)=U_B(c_1-x_1,...,c_n-x_n)$ is reduced to determining those points $(x_1,...,x_n)$ for which:

$$\frac{\partial U_A}{\partial x_i}=\lambda\frac{\partial U'_B}{\partial x_i},\ i=\overline{1,n},\ \lambda\in\mathbf{R}$$

i.e. the points where the hypersurfaces will intersect and have the same tangent hyperplane (*the directors parameters are proportional*). In terms of utility of B, we have:

$$\frac{\partial U'_B}{\partial x_i}(x_1,...,x_n)=-\frac{\partial U_B}{\partial x_i}(c_1-x_1,...,c_n-x_n)$$

from where the above condition becomes:

$$\frac{\partial U_A}{\partial x_i}(x_1,...,x_n)=\mu\frac{\partial U_B}{\partial x_i}(c_1-x_1,...,c_n-x_n),\ i=\overline{1,n},\ \mu\in\mathbf{R}$$

In marginal notation, we have:

$$U_{Am,i}(x_1,...,x_n)=\mu U_{Bm,i}(c_1-x_1,...,c_n-x_n),\ i=\overline{1,n},\ \mu\in\mathbf{R}$$

For two goods, the relations $U_{Am,1}=\mu U_{Bm,1}$ and $U_{Am,2}=\mu U_{Bm,2}$ are equivalent with: $\frac{U_{Am,1}}{U_{Am,2}}=\frac{U_{Bm,1}}{U_{Bm,2}}$. On the other hand, $\frac{U_{Am,1}}{U_{Am,2}}=\frac{dx_2}{dx_1}\Big|_A$ = $RMS_A(1,2)$ – the marginal rate of

substitution between the goods B_1 and B_2 for A, and $\frac{U_{Bm,1}}{U_{Bm,2}} = \frac{dx_2}{dx_1}\Big|_B = RMS_B(1,2)$ – the marginal rate of substitution between the goods B_1 and B_2 for B. The above equality becomes:

$$RMS_A(1,2) = RMS_B(1,2)$$

All points where the allocation is Pareto efficient (*the solutions of the above problem*) generates the so-called curve of the contracts.

The contract curve represents all combinations of goods for which none of the parties can maximize utility without him diminish the other.

On the other hand, any point on the curve of the contracts represents a possible allocation. The problem is: if one of the two buyers wants a basket of products that maximizes his utility, another buyer agrees to buy what is left? The problem is very real and, fortunately, relatively easy to solve.

Consider then the n goods prices (*which we neglected to this moment*) $p_1,...,p_n$. For an income V, the budget hyperplane $\sum_{k=1}^{n} p_k x_k = V$ (*all combinations of goods that can be purchased by the amount V*) maximizes the utility (in the meaning of Walras) if it is tangent to its hypersurface, in which case, after the second law of Gossen, the marginal utilities are proportional to prices of goods.

As each consumer wants to maximize utility, results:

$$\frac{U_{Am,1}(x_1,...,x_n)}{p_1} = ... = \frac{U_{Am,n}(x_1,...,x_n)}{p_n}$$

$$\frac{U_{Bm,1}(c_1 - x_1,...,c_n - x_n)}{p_1} = ... = \frac{U_{Bm,n}(c_1 - x_1,...,c_n - x_n)}{p_n}$$

so the budget hyperplane will be tangent to the two utility hypersurfaces, that is will coincide with the common tangent hyperplane to them.

Considering the contract curve of the form:

$$x_1 = f_1(\lambda),...,x_n = f_n(\lambda),\ \lambda \in \mathbf{R}$$

it follows that the price determination will be made from a single set of equality above (*the other derived from proportional marginal utilities on the curve of contracts*). So we get:

$$\frac{U_{Am,1}(f_1(\lambda),...,f_n(\lambda))}{p_1} = ... = \frac{U_{Am,n}(f_1(\lambda),...,f_n(\lambda))}{p_n}$$

from where:

$$p_k = \frac{U_{Am,k}(f_1(\lambda),...,f_n(\lambda))}{U_{Am,1}(f_1(\lambda),...,f_n(\lambda))}\nu\ ,\ \nu>0,\ k=\overline{1,n}$$

We note that prices are determined to a multiplicative factor, which does not affect the outcome of the problem. We can consider $\nu=1$ due to the fact that a multiplication by a constant factor prices do not affect the parameters of the budget hyperplane, implicitly its orientation. If the initial allocation was $x_A=(\alpha_1,...,\alpha_n)$, $x_B=(\beta_1,...,\beta_n)$ follows that A's budget is: $V=\sum_{k=1}^{n} p_k\alpha_k$.

The new quantities (which satisfy also the budget equation $\sum_{k=1}^{n} p_k x_k = V$) implies that:

$$\sum_{k=1}^{n} p_k(\alpha_k - x_k) = 0$$

Substituting the expressions of p_k in this equation, it follows:

$$\sum_{k=1}^{n} \frac{U_{Am,k}(f_1(\lambda),...,f_n(\lambda))}{U_{Am,1}(f_1(\lambda),...,f_n(\lambda))}(\alpha_k - f_k(\lambda))=0$$

hence $\lambda\in\mathbf{R}$. Substituting in the appropriate expressions, resulting p_k and x_k, $k=\overline{1,n}$.

Example

For B_1 and B_2 – two goods available in the quantities a and b, let consider two consumers A and B for which the utilities surfaces are of Cobb-Douglas type:

$U_A(x_1,x_2)= Cx_1^{\alpha}x_2^{1-\alpha}$, $\alpha\in(0,1)$, $C>0$, respectively $U_B(x_1,x_2)= Dx_1^{\beta}x_2^{1-\beta}$, $\beta\in(0,1)$, $D>0$

In order to obtain the curve of the contracts, we will determine first the transformed utility function of B. We have therefore:

$$U_B^{'}(x_1,x_2)=U_B(a-x_1,b-x_2)$$

from where:

$$U_B^{'}(x_1,x_2)= D(a-x_1)^{\beta}(b-x_2)^{1-\beta}$$

Also:

$$\frac{\partial U_A}{\partial x_1}(x_1,x_2) = C\alpha x_1^{\alpha-1}x_2^{1-\alpha},\ \frac{\partial U_A}{\partial x_2}(x_1,x_2) = C(1-\alpha)x_1^{\alpha}x_2^{-\alpha},$$

$$\frac{\partial U_B}{\partial x_1}(a-x_1,b-x_2)=D\beta(a-x_1)^{\beta-1}(b-x_2)^{1-\beta},$$
$$\frac{\partial U_B}{\partial x_2}(a-x_1,b-x_2)=D(1-\beta)(a-x_1)^{\beta}(b-x_2)^{-\beta}$$

The contracts curve points satisfying:

$$\begin{cases} C\alpha x_1^{\alpha-1}x_2^{1-\alpha}=\mu D\beta(a-x_1)^{\beta-1}(b-x_2)^{1-\beta} \\ C(1-\alpha)x_1^{\alpha}x_2^{-\alpha}=\mu D(1-\beta)(a-x_1)^{\beta}(b-x_2)^{-\beta} \end{cases}$$

from where:

$$x_2=f(x_1)=\frac{b\beta(1-\alpha)x_1}{a\alpha-a\alpha\beta+(\beta-\alpha)x_1}$$

In order to determine the prices of both goods that maximizes the utility of A and B in terms of an initial allocation for A: $x_1^*=\gamma$, $x_2^*=\delta$, we will write the contracts curve in the form:

$$\begin{cases} x_1=f_1(\lambda)=\lambda \\ x_2=f_2(\lambda)=\dfrac{b\beta(1-\alpha)\lambda}{a\alpha-a\alpha\beta+(\beta-\alpha)\lambda} \end{cases}$$

We have now:

$$p_1=\nu \text{ and } p_2=\frac{a\alpha-a\alpha\beta+(\beta-\alpha)\lambda}{\alpha\beta b}\nu$$

For $\nu=1$, we obtain: $p_1=\nu$ and $p_2=\dfrac{a\alpha-a\alpha\beta+(\beta-\alpha)\lambda}{\alpha\beta b}$.

Because the initial allocation was $x_1^*=\gamma$, $x_2^*=\delta$ it follows that the disposable income of A is: $V=p_1x_1^*+p_2x_2^*=p_1\gamma+p_2\delta$. On the other hand: $V=p_1x_1+p_2x_2$ therefore: $\lambda=\dfrac{\gamma\alpha\beta b+a\alpha\delta-a\alpha\beta\delta}{\beta b-\beta\delta+\alpha\delta}$. Therefore:

$$p_1=1,\ p_2=\frac{(a\alpha-a\alpha\beta)(\beta b-\beta\delta+\alpha\delta)+(\beta-\alpha)(\gamma\alpha\beta b+a\alpha\delta-a\alpha\beta\delta)}{\alpha\beta b(\beta b-\beta\delta+\alpha\delta)}$$

For these prices, the final allocation of goods for A is:

$$x_1=\frac{\gamma\alpha\beta b+a\alpha\delta-a\alpha\beta\delta}{\beta b-\beta\delta+\alpha\delta}$$

$$x_2=\frac{b\beta(1-\alpha)(\gamma\alpha\beta b+a\alpha\delta-a\alpha\beta\delta)}{(a\alpha-a\alpha\beta)(\beta b-\beta\delta+\alpha\delta)+(\beta-\alpha)(\gamma\alpha\beta b+a\alpha\delta-a\alpha\beta\delta)}$$

3. The Efficiency of the Production

Consider, in the following, two products A and B and a number of n inputs $F_1,...,F_n$, available in the quantities $s_1,...,s_n$ for which it is known the production functions of A and B as follows: $Q=Q_A(x_1,...,x_n)$, respectively $Q=Q_B(x_1,...,x_n)$ appropriate for the consumption of x_k units of factor F_k, $k=\overline{1,n}$.

Similarly to the case of consumer efficiency, we build the Edgeworth's box that is the n-dimensional parallelepiped: $[0,s_1]\times...\times[0,s_n]$, the quantities relative to A being referred to the origin O(0,...,0), while those at B to the point $F(s_1,...,s_n)$ on segments that define the n-dimensional parallelepiped.

Let an initial allocation of factors of production for A and B:

$$x_A=(\alpha_1,...,\alpha_n),\ x_B=(\beta_1,...,\beta_n)$$

where $\alpha_k+\beta_k=s_k$, $k=\overline{1,n}$ (*A and B consume all the available inputs*).

Doing similar as in the previous section it shows that the maximum efficiency in production is reached when the production hypersurfaces become tangent, which is to:

$$\eta_{A,i}(x_1,...,x_n)=\mu\eta_{B,i}(s_1-x_1,...,s_n-x_n),\ i=\overline{1,n},\ \mu\in\mathbf{R}$$

where $\eta_{A,i}=\frac{\partial Q_A}{\partial x_i}$ is the marginal productivity relative to the production factor x_i and analog for B.

For two inputs (K and L), the above relations are equivalent with: $\frac{\eta_{A,K}}{\eta_{A,L}}=\frac{\eta_{B,K}}{\eta_{B,L}}$. On the other hand, $\frac{\eta_{A,K}}{\eta_{A,L}}=\frac{dL}{dK}\Big|_A=RMS_A(K,L)$ – the marginal rate of technical substitution of capital for A, and $\frac{\eta_{B,K}}{\eta_{B,L}}=\frac{dL}{dK}\Big|_B=RMS_B(K,L)$ – the marginal rate of technical substitution of capital for B.

The above equality becomes:

$$RMS_A(K,L)=RMS_B(K,L)$$

All points where the allocation is Pareto efficient form the contracts production curve.

Considering now the prices of the n inputs being $r_1,...,r_n$ we get as above that a maximize of production requires that:

$$\frac{\eta_{A,1}(x_1,...,x_n)}{r_1}=...=\frac{\eta_{A,n}(x_1,...,x_n)}{r_n}$$

on the production contract curve.

Considering the production contract curve of the form:

$$x_1=g_1(\lambda),...,x_n=g_n(\lambda),\ \lambda\in\mathbf{R}$$

follows:

$$\frac{\eta_{A,1}(g_1(\lambda),...,g_n(\lambda))}{r_1}=...=\frac{\eta_{A,n}(g_1(\lambda),...,g_n(\lambda))}{r_n}$$

from where:

$$r_k=\frac{\eta_{A,k}(g_1(\lambda),...,g_n(\lambda))}{\eta_{A,1}(g_1(\lambda),...,g_n(\lambda))}\nu,\ \nu>0,\ k=\overline{1,n}$$

We note that prices are determined to a multiplicative factor, which does not affect the outcome of the problem and can therefore be considered $\nu=1$. If the initial allocation of factors of production has been $x_A=(\alpha_1,...,\alpha_n)$, $x_B=(\beta_1,...,\beta_n)$ follows that the total cost of production resulting value of A is: $CT=\sum_{k=1}^{n} r_k\alpha_k$.

The new quantities of factors (*which also satisfy the same total cost:* $\sum_{k=1}^{n} r_k x_k = CT$) implies:

$$\sum_{k=1}^{n} r_k(\alpha_k - x_k)=0$$

Substituting the expressions of r_k in this equation, it follows:

$$\sum_{k=1}^{n}\frac{\eta_{A,k}(g_1(\lambda),...,g_n(\lambda))}{\eta_{A,1}(g_1(\lambda),...,g_n(\lambda))}\left(\alpha_k - g_k(\lambda)\right)=0$$

hence $\lambda\in\mathbf{R}$. Substituting the appropriate expressions, resulting r_k and x_k, $k=\overline{1,n}$.

4. Conclusion

From the analysis made above, we saw that in the treatment of Edgeworth's box, the reporting of all quantities to the same point and the n-dimensional approach allow for general conclusions and equations for determining the equilibrium prices and quantities.

Applications for n=2 have allowed the correlation of the known results with the conclusions of the theory presented above.

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Detrending Time Series and Business Cycles. The Romanian Case

Viorica Chirila[1]

Abstract: Detrending time series trend is a very important research topic for the economics of economic cycles, yet up to this moment no consensus has been reached on the methods used, which makes it a controversial topic. The papers made on the comparative analysis of time series exclusion trend are based on relatively large samples as to what we have available in Romania. The initiation of the passage to a market economy starting with 1989 meant for Romania changes in statistical records at that time and afterwards, therefore the samples we have available for the study are relatively limited as to samples from developed countries. Moreover, while the analysis for USA is made on values of the gross domestic product at a monthly rate, for Romania the values for the gross domestic product we have available are at most at a quarterly rate since 1998. Our analysis was conducted on the business cycles of variables representing fundamental indicators of the evolution of an economy on a quarterly basis during 1998.1 – 2011.3: gross domestic product, the final consumption, the working hours, the real wages, the productivity and the capital stock. To estimate the business cycles of variables we took into consideration the polynomial functions of time, the first order differences, the Beveridge-Nelson decomposition and Hodrick-Prescott filter. The results obtained are in compliance with the previous research performed on the economies of other countries.

Keywords: business cycles; stationarity; asimetry; Beveridge-Nelson decomposition.

JEL Classification: E 32; C 18; C22

1 Introduction

Detrending time series is a controversial research topic because a universally valid method has not been agreed upon so far. Detrending the time series also represents a very important research theme as it is at the basis of the estimation of variables' business cycles. Since the developed countries have large data samples of macroeconomic variables and are frequently (monthly) registered, most of the studies regarding the effect of the methods used in detrending time series are performed on these countries. The Central and East European countries, among which Romania as well, have changed their economic system starting with 1990 and the adherence to the European Union imposed the harmonization of the national statistical

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registration system with the European one, determining in the case of Romania the existence of small comparable data sets starting with 1996 or even 1998 with a quarterly frequency at the most.

This paper undertakes to analyze the effect of the estimations methods of the macroeconomic variable trend over the cyclic composition of some macroeconomic series in Romania.

The importance of detrending the macroeconomic series may be considered from several perspectives. On the one hand, the univariate exclusion methods of the macroeconomic series trend enable their cyclic component to be obtained (without considering the random component of time series). On the other hand, the cyclic component of the gross domestic product is the output gap that may indicate its position in the cyclic evolution of the economy and its weakness. The information on the position in the cyclic evolution of the economy is relevant as it affects the inflationist pressure on the economy that at its turn determine the monetary policy.

The estimated trend of the gross domestic product of a country is its potential gross domestic product and the shifts from the trend are the output gap. The potential gross domestic product "reflects the optimum potential supply of an economy and facilitates an estimate of non-inflationary growth" (Altăr et al., 2009).

The issue of detrending the macroeconomic series has been always drawing attention. Canova (1998) makes a synthesis of the exclusion methods used in time series trend. He classifies them into two large groups: statistical procedures, in which he includes polynomial functions of time, first order differences, Beveridge and Nelson's procedure (), unobserved components model, frequency domain methods and economic procedure, in which he includes a model of common deterministic trends, a model of common stochastic trends, the Hodrick and Prescott's filter (1997). Of the methods critically presented by Canova (1998), few are the methods commonly used in specialized literature.

The identification and the exclusion of the trend from macroeconomic variables plays the part of transforming the initial data in a process characterized by mean zero, stochastic and stationary in covariance. Such a process has the second order moment invariant in time. The discharge of the trend is not enough, as seen later, to induce stationarity in covariance, but it is a first stage.

Before describing the trend estimation methods, let it reminded that usually the logarithmic values of variables are used, which express the level of macroeconomic indicators. The logarithm of a variable recorded in time is actually the growth rate of the variable.

This paper deals with the exclusion methods of macroeconomic variable trends analyzed by linear trend, quadratic trend, first difference, Beveridge-Nelson decomposition and the Hodrick-Prescott Filter. We did not consider the Baxter-King, Khristiano-Fitzgerald filters because we obtain a cyclic composition with few values.

2. Methods

The first research conducted on the cyclic behavior of industrialized countries was faced with the issue of separating the fluctuations of long-term variables, the trend from the cyclic fluctuations. In order to ease the calculus, without taking into account the properties of the analyzed time series, the traditional methods were considered. According to those, a time series observed during a certain period is additively decomposed in a trend component and a cyclic component that are supposed to be independent from one another hence:

$y_t = \tau_t + c_t$, $E(\tau_t, \varepsilon_s) = 0$, for all *t,s*

where: y_t - the values of the registered variable

τ_t - the trend component

c_t - the cyclic component

$t = \overline{1.T}$, the registration period

The variable y_t is considered the logarithm of the registered economic variable and the data are observed on a yearly basis. İn case we have monthly or quarterly observations, y_t results after the exclusion of the seasonal component and logarithmation.

2.1. Polynomial functions of time

The linear trend. The trend and cycle components of a time series are not observable and therefore they need to be estimated. The easiest model is the linear trend model.

$\mu_t = \beta_0 + \beta_1 t$

where, if y_t is logarithmated, it implies a constant increase of the variable.

The estimation of the regression model

$$y_t = \beta_0 + \beta_1 t + \varepsilon_t$$

can be done using the least square method. If $\hat{\beta}_0, \hat{\beta}_1$ are the estimators of the parameters of the regression model, the trend component is determined using the relation:

$$\hat{\mu}_t = \hat{\beta}_0 + \hat{\beta}_1 t$$

and the cyclic component is obtained as a residual variable of the estimated equation hence:

$$\hat{c}_t = \hat{\varepsilon}_t = y_t - \left(\hat{\beta}_0 + \hat{\beta}_1 t\right)$$

The non-linear trend. The linear trend model implies that the variable ha a constant growth rate which, in reality, is hardly achieved. In order to exclude this supposition, we may consider that the trend is a polynomial time function of the form:

$$\tau_t = f\left(t\right)$$

or:

$$\tau_t = \beta_0 + \sum_{i=1}^{k} \beta_i t^i .$$

The variable can be decomposed as follows $y_t = \beta_0 + \sum_{i=1}^{k} \beta_i t^i + \varepsilon_t$

It can be observed that when i=1 we have a first order polynomial and it is a linear function, when i=2 we have a second order polynomial, that is a quadratic trend, etc.

2.2. First Order Differences

First-order differences rely on the presupposition that the time series trend is a random walk with no drift, meaning a stochastic trend, while the cyclic component is stationary. If the series follows a random walk, this implies that it is integrated of first order. As a consequence, variable y may be written as follows:

$$y_t = y_{t-1} + \varepsilon_t$$

Therefore

- the residual variable ε_t is the cyclic component and may be obtained by the first order difference of the variable as follows:

$\hat{c}_t = \hat{\varepsilon}_t = y_t - y_{t-1}$

- and the trend is $\tau_t = y_{t-1}$

The cyclic component obtained through the first order differences is not correlated with the trend.

2.3. Beveridge – Nelson Decomposition

Beveridge and Nelson (1981) identified a possibility to decompose a non-stationary time series in a permanent component, the trend, and a cyclic component, by using the ARMA modeling. The Beveridge-Nelson decomposition is applied to non-stationary, first order integrated series that can be stationarized by difference. The decomposition leads to obtaining a trend component that is not stationary and to a stationary cyclic component, both of them being correlated. The trend is considered as a prediction of future values of the series.

The main critics of this decomposition is determined by the fact that Christiano and Eichenbaum (1990) proved that there may be several ARMA models which fit the sample autocorrelations of data set fairly well.

The Wald theorem specifies that each stationary process in co-variance has a MA(∞) representation which is also consistent with an ARMA(p,q) representation. In order to truncate the infinite sum and to obtain thus the trend and the cycle, different methods were proposed by Newbold (1990), Cuddington and Winters (1987), Miller (1988) and Morley et al. (2001).

The cyclic component using the Beveridge-Nelson decomposition can be obtained from the relation:

$$c_t = \sum_{j=1}^{q}\left[\hat{z}_t(j) - \mu\right] + \left(1 - \phi_1 - \ldots - \phi_p\right)^{-1} \sum_{j=1}^{p}\sum_{i=j}^{p} \phi_i \left[\hat{z}_t(q - j + 1) - \mu\right]$$

where: $\hat{z}_t(k)$ - represents k periods before the forecast of $z = \Delta y$ performed during the period t,

ϕ_j - is the AR coefficient for the lag j

μ - is the mean of the process z_t

We will identify the ARMA model of each analyzed time series by taking into account the least values of Akaike (AIC) and Schwarz (SIC) information criteria obtained from the estimation of ARMA models.

2.4. The Hodrick and Prescott's filter

The Hodrick-Prescott filter is one of the most frequently used procedures in the estimation of business cycles. Its use in the macroeconomic field is justified by the fact that it succeeds to estimate the long-term component of time series, the trend, adding flexibility and adjustment to registered values so that the resulted trend corresponds to the line one would draw on the graphical representation of data. The smooth trend resulted following the application of the Hodrick-Prescott filter is ensured so as the imposition as the square of second order difference of τ_t is small. The trend component is obtained by minimizing the expression:

$$min\left[\sum_{t=1}^{T} c_t^2 + \lambda \sum_{t=2}^{T} \left(\left(\tau_{t+1} - \tau_t \right) - \left(\tau_t - \tau_{t-1} \right) \right) \right]^2$$

where: T – the sample size,

λ - a parameter that fines the variability of the trend.

The most used values of the parameter λ are 1600 for quarterly data and 14400 for monthly data.

By applying the Hodrick-Prescott filter the resulted stochastic trend and the cyclic component are not correlated.

3. Data

In our analysis we took into consideration which the most used variables in the study of the business cycles are: the gross domestic product (GDP), the final consumption (CONS), the working hours (HOURS), the real wages (WAGE), the productivity (PROD) and the capital stock (STOCK). The variables are registered on a quarterly basis during the period 1998.1-2011.3.

The values of the gross domestic product in current prices (GDP) and the final consumption were taken from the Eurostat database.

The real values of the gross domestic product were computed by means of the harmonized index of consumption prices that was also taken from the Eurostat database.

İn order to obtain the total working hours in non-agricultural activities, we multiplied the employees' number paid from non-agricultural activities by the

average number of weekly hours and the number of weeks within a term (52 weeks per year / 4 terms=13 weeks). The values for the time series of these variables for the analyzed period 1998.1-2011.3 were taken from the Laborsta site of International Labour Organisation. The data concerning the nominal wages were also taken from this database and then they were turned into real wages by means of the harmonized index of consumption prices.

The wages in non-agricultural activities with a quarterly frequency were obtained as a mean of the monthly wages also taken from the Laborsta site of International Labour Organisation. The real values of the wages in non-agricultural activities were the computed.

The productivity series was obtained as a difference between log (GDP) şi log(hours) (Canova, 1998).

Since the variable capital stock is not performed within the official statistics we estimated it by means of the method Perpetual Inventory Method as it was minutely presented by Altar M. Necula C. and Bobeică G (2009). The computing formula is:

$$K_t = K_{t-1}(1-\delta) + I_t = K_0(1-\delta)^t + \sum_{j=1}^{t} I_j (1-\delta)^{t-j}$$

where: K_t - the capital stock at the moment t

K_0 - the initial capital stock

δ - the yearly depreciation rate

I_j - the gross fix capital formation

Values for the gross fix capital formation are available on a quarterly basis in the Eurostat database. We consider the depreciation rate to be 5 percent each year (Denis şi al. 2006). The initial capital stock is considered as being twice the GDP value (Denis et al. 2006) in 1998.1, the start of the period under analysis.

Therefore we will have: $K_t / GDP = 2$

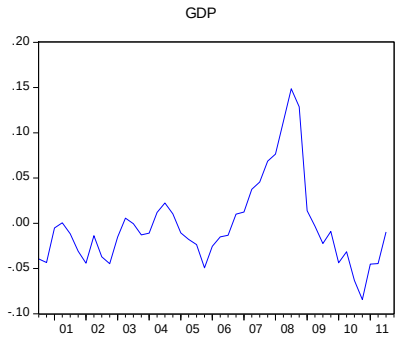
$$K_{t+1}^Q = K_t^Q (1-\delta_Q) + I_t^Q$$

where: δ_Q - the quarterly depreciation rate, $(1-\delta_Q)^4 = 1-\delta$

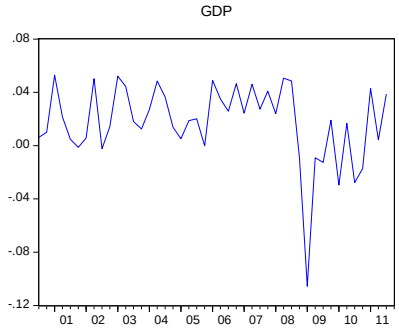
$\delta = 0.05$

4. Empirical Analysis

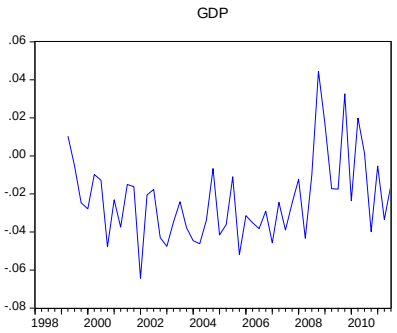
The figure above shows the cyclic components of the gross domestic products estimated by the considered methods. Graphical representations provide us some information on the characteristics of cycles induced by the estimation methods. The cyclic components of GDP estimated by the first difference, the Beveridge-Nelson decomposition and the Hodrick-Prescott 4 filter show little variability in time while the cyclic components estimated by Hodrick-Prescott 1600, the linear trend and the quadratic trend have a high variability.



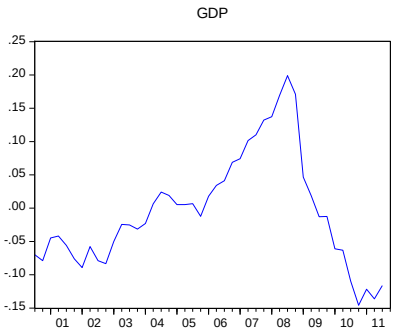
HP 1600



First difference



Beveridge – Nelson decomposition



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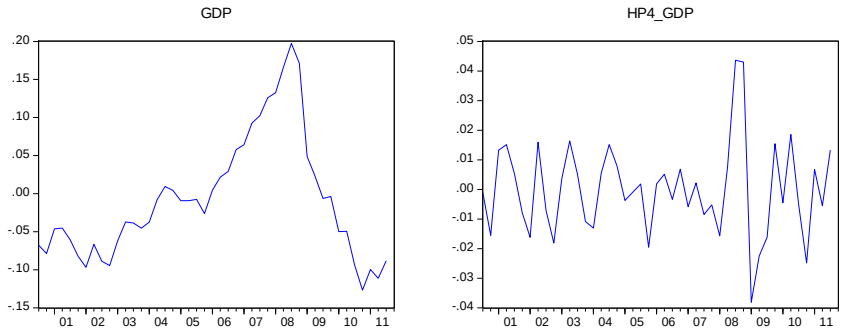

QT HP4

Figure 1. The cyclic component of GDP estimated by means of different methods

Moreover, the evolution stages of the cyclic components achieved by the first group of methods (expansion, crisis, recession, recovery) are difficult to identify because they show little and frequent fluctuations. The second group of estimation methods of cyclic components of GDP make much easier the identification of the cycle evolution stages.

From the same graphical representation we anticipate the cyclic components achieved by the first group of methods are stationary in time, while the cyclic components achieved by the second group of methods are not stationary.

Table 1 The asymmetry indicators of cyclic components of macroeconomic variables under analysis

	CONS	STOCK	GDP	HOURS	PROD	WAGE
HP 1600	1.115781	-0.13645	1.445870	-0.00649	0.852827	0.367259
DF	-0.379253	-1.23429	-0.3128	0.147891	0.300603	0.361547
HP4	-0.032177	0.262512	0.454561	-0.47767	0.116518	-0.54997
TRL	0.405248	-0.19074	0.898270	0.408112	0.714777	0.468802
TRQ	0.604220	0.344252	0.621145	0.352273	-0.11875	0.843889
BN	0.179710	0.829899	0.961670	0.087324	-0.25145	0.039892

To check the stationarity of generated cyclic components, the Augmented Dickey-Fuller test was employed. The achieved results are presented in Annex 1. The results show, as in existing studies, that the use of the linear and quadratic trend

does not help in getting stationary cyclic components. Therefore, these methods are hardly ever used. Also, the cyclic component of the achieved GDP by the best used method HP 1600 is not stationary. Although the HP 1600 filter is one of the most used filters for the estimation of cyclic components of macroeconomic variables, in the case of macroeconomic variables in Romania it proves to be inefficient. The cyclic component obtained by means of the HP filter does not meet the stationarity condition. The main reason of the lack of stationarity of the cyclic component is caused, in our opinion, by the very small data sample.

Table 2 The kurtosis indicators of cyclic components of macroeconomic variables under analysis

	CONS	STOCK	GDP	HOURS	PROD	WAGE
HP 1600	4.058915	2.389346	5.192623	2.199105	3.702091	2.579045
DF	3.318798	4.179849	1.674968	3.032075	3.706701	3.473553
HP4	3.486195	3.406133	4.070277	3.185193	2.206635	
TRL	2.088395	1.995279	3.096239	2.073369	3.155096	2.699398
TRQ	2.303150	1.764892	2.812622	2.364457	2.685818	2.498580
BN	4.097854	2.762608	4.108272	2.588209	2.566009	2.428263

The analysis of the asymmetry indicators of cyclic components of analyzed variables shows contradictory results. Therefore for the same variable, different methods of estimating cyclic components show both negative asymmetry and positive asymmetry.

As for the kurtosis, the cyclic components of variables show an excess of kurtosis, HP 1600, BN and DF reaching the highest peaks as shown in the table below.

5. Conclusions

The analysis of the economic cycles of several macroeconomic variables in Romania estimated by various methods shows that the methods employed have a huge impact over their statistical characteristics. The use of the linear or quadratic trend determines the achievement of cyclic components that are non-stationary and therefore cannot be used in statistical prognosis or inference. It is surprising that the best used method of estimating business cycles, the Hodrick-Prescott filter 1600, determines the achievement of economic cycles of GDP, also non-stationary. This result is mainly determined by a very small sample of data.

6. Acknowledgement

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ANNEX Testing the stationarity of cyclic components of the variables under analysis

Table 1 Testing the stationarity of business cycles of Final Consumption (CONS)

	Model with intercept	Model with trend and intercept	Model without trend and intercept
HP 1600	-2.385917	-2.311861	-2.425766
	(0.1513)	(0.4192)	(0.0163)
DF	-5.806976	-6.021015	-5.199069
	(0.0000)	(0.0000)	(0.0000)
HP4	-15.22701	-15.39086	-15.12193
	(0.0000)	(0.0000)	(0.0000)
TRL	-1.187264	-0.617991	-1.186212
	(0.6719)	(0.9730)	(0.2119)
TRQ	-1.350559	-0.907050	-1.348074
	(0.5978)	(0.9462)	(0.1622)
BN	-9.368061	-9.257156	-9.416447
	(0.0000)	(0.0000)	(0.0000)

The results of the Augmented Dickey Fuller test are obtained by means of the Eviews statistical software.
Between brackets there are the probabilities associated to the ADF test.

Table 2 Testing the stationarity of business cycles of Capital Stock (STOCK)

	Model with intercept	Model with trend and intercept	Model without trend and intercept
HP 1600	-1.183990	0.340238	-1.134697
	(0.6733)	(0.9983)	(0.2296)
DF	-2.255409	-2.498532	-0.653436
	(0.1905)	(0.3274)	(0.4286)
HP4	-11.31536	-12.79654	-10.92529
	(0.0000)	(0.0000)	(0.0000)
TRL	-1.139860	0.044755	-1.031709
	(0.6918)	(0.9957)	(0.2677)
TRQ	-0.779490	1.915104	-0.721830
	(0.8152)	(1.0000)	(0.3984)
BN	-28.70771	-29.16187	-29.31551
	(0.0001)	(0.0000)	(0.0000)

The results of the Augmented Dickey Fuller test are obtained by means of the Eviews statistical software.
Between brackets there are the probabilities associated to the ADF test.

Table 3 Testing the stationarity of business cycles of Gross Domestic Product (GDP)

	Model with intercept	Model with trend and intercept	Model without trend and intercept
HP 1600	-1.989472	-1.933748	-2.016845
	0.2903	0.6205	0.0430
DF	-66.35568	-70.80916	-44.91386
	0.0001	0.0000	0.0000
HP4	-9.481144	-9.220988	-9.723982
	0.0000	0.0000	0.0000
TRL	-1.229201	-0.820396	-1.226323
	0.6537	0.9559	0.1987
TRQ	-1.376289	-1.027206	-1.364827
	0.5855	0.9297	0.1575
BN	-5.695239	-6.004495	-3.092263
	0.0000	0.0000	0.0027

The results of the Augmented Dickey Fuller test are obtained by means of the Eviews statistical software.
Between brackets there are the probabilities associated to the ADF test.

Table 4 Testing the stationarity of business cycles of working hours (HOURS)

	Model with intercept	Model with trend and intercept	Model without trend and intercept
HP 1600	-3.412898	-3.326062	-3.455117
	0.0156	0.0751	0.0009
DF	-7.493158	-7.491849	-7.492314
	0.0000	0.0000	0.0000
HP4	-11.21484	-10.95977	-11.45412
	0.0000	0.0000	0.0000
TRL	-2.175803	-2.042655	-2.178098
	0.2176	0.5627	0.0297
TRQ	-1.993158	-1.684425	-2.002667
	0.2887	0.7418	0.0444
BN	-7.792994	-7.826030	-7.772136
	0.0000	0.0000	0.0000

The results of the Augmented Dickey Fuller test are obtained by means of the Eviews statistical software.
Between brackets there are the probabilities associated to the ADF test.

Table 5 Testing the stationarity of productivity business cycles (PROD)

	Model with intercept	Model with trend and intercept	Model without trend and intercept
HP 1600	-2.629021	-2.591290	-2.656518
	0.0948	0.2860	0.0090
DF	-6.162775	-6.385855	-4.896991
	0.0000	0.0000	0.0000
HP4	-14.70887	-14.30323	-15.08278
	0.0000	0.0000	0.0000
TRL	-1.254981	-1.009195	-1.285185
	0.6422	0.9324	0.1804
TRQ	-1.811788	-1.599618	-1.810818
	0.3702	0.7775	0.0671
BN	-7.082570	-7.201655	-7.141381
	0.0000	0.0000	0.0000

The results of the Augmented Dickey Fuller test are obtained by means of the Eviews statistical software.
Between brackets there are the probabilities associated to the ADF test.

Table 6 Testing the stationarity of real wage business cycles (WAGE)

	Model with intercept	Model with trend and intercept	Model without trend and intercept
HP 1600	-2.085990	-1.933566	-2.105081
	(0.2511)	(0.6206)	(0.0352)
DF	-7.213524	-7.304897	-5.850522
	(0.0000)	(0.0000)	(0.0000)
HP4	-17.51904	-17.01204	-17.72242
	(0.0000)	(0.0000)	(0.0000)
TRL	-1.503322	-1.182166	-1.476745
	(0.5229)	(0.9022)	(0.1290)
TRQ	-1.339199	-0.858151	-1.336665
	(0.6032)	(0.9519)	(0.1654)
BN	-8.338623	-8.275054	-8.065585
	(0.0000)	(0.0000)	(0.0000)

The results of the Augmented Dickey Fuller test are obtained by means of the Eviews statistical software.
Between brackets there are the probabilities associated to the ADF test.

Tourism and Sustainable Development

The Rural Tourism: Great Potential, Low Development. Case Study: The Rural Tourism in Bulgaria and Romania

Romeo-Victor Ionescu[1], Gabriela Marchis[2]

Abstract: The paper deals with an analysis of the European tourism. We operated during 2000-2010 time period, and we analysed the specific indicators of the tourism in Romania. Romanian tourism is low developed and depends powerfully on domestic demand. Neither the myth of the rural tourism in Romania is not real as long as the infrastructure is lamentable and the services are shoddy and expensive. Practically, the international touristic flows in the country are still low and mainly for business purposes. An optimal solution for Romanian tourism has to be focused on three elements: macroeconomic sustainable development, public financial support and a new touristic management approach, as well. The conclusions of the paper are followed by pertinent graphics, maps and diagrams.

Keywords: comparative country studies; project's evaluation; infrastructure

JEL Classification: O220; O570; R19

1 Introduction

The current global crisis began in 2007 and achieved the peak in 2009. The forecasts of world economic growth are not enthusiastic for 2010. Moreover, the specialists use only short-time forecasts. As a result, the growth of the most important world economies reveals a worst situation in 2010 (European Travel Commission, 2010).

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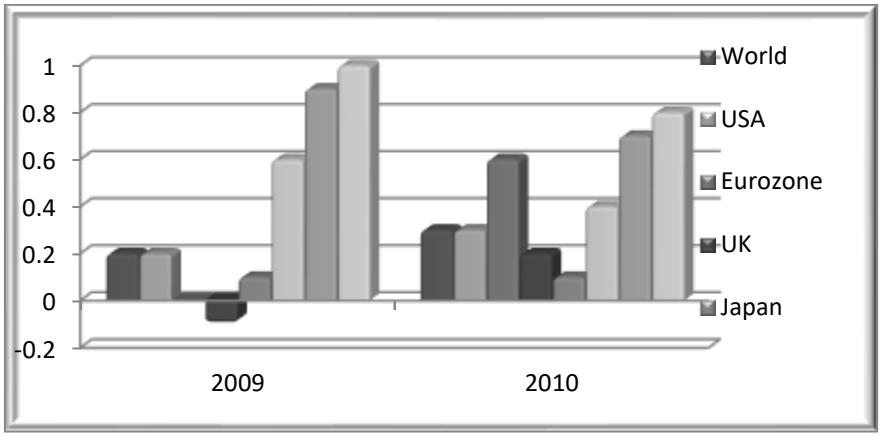

Figure 1. The forecasts growth of the most important world economies (%)

Source: European Travel Commission, 2011

Tourism is a typical cross-cutting industry. Services for tourists involve a variety of economic branches: hotels and other accommodation, gastronomy (restaurants, cafes, etc.), the various transport operators and also a wide range of cultural and recreational facilities (theatres, museums, leisure parks, swimming pools, etc.).

In many tourism-oriented regions the retail sector also benefits considerably from the demand created by tourists in addition to the one of resident population. Romania ranked the last position in the EU in the latest world tourism competitiveness report (WEF, 2011). Our country has the rank 63 from 139 countries around the world. The most attractive countries related to the tourism development are Switzerland, Germany, France, Austria, Sweden, UK, USA, Canada and Singapore. Bulgaria is on the 48th position, outmatching Poland, Slovakia, Lithuania and Romania. The European countries which have a worst rank than Romania are: Albania, Georgia, FYROM, Serbia, Ukraine, Armenia, Bosnia and Herzegovina and Moldavia. The top was made using specific indicators as: the business environment, infrastructure, human, cultural and natural resources, and tourism regulations.

2. Method and Methodology

The research aims to realise a comparative analysis between the latest two EU member states regarding the economic environment which supports the rural tourism development. In this respect our comparative analysis is followed by diagrams and pertinent tables which perform the statistic databases and support the idea and the conclusions of the paper. On the other hand, the results of the comparative analysis are quantified using the multiple linear regressions. The

resultative dependent variable is the evolution of the tourism destination and the factorial variables are the road infrastructure investment and the average level of the wages in both countries. Our research availed, as a methodological tool, the SPSS Program (version 17). This statistic program helped us to quantify all the data and information that we use in order to accomplish this research.

3. The International Tourism's Trends

Tourism is an important and fast-evolving economic factor in the European Union, occupying large numbers of small and medium-sized businesses. Its contribution to growth and employment varies widely across the EU regions. Particularly, in rural regions, usually peripheral to the economic centres of their countries, tourism is often one of the main sources of population income and a prominent factor in creating and securing an adequate level of employment.

EUROSTAT has been collecting data on the development and structure of tourism since 1995, pursuant to Council Directive 95/57/EC on the collection of statistical information in the field of tourism. This includes data both on accommodation capacity and its utilisation and also on population travel behaviour. The travel behaviour data are, however, only available at national level. In contrast, the data collected on accommodation capacity and its utilisation is also available by region. Inside the Triad, the recovery is greater in the USA and EU (Eurozone) while Japan faces a decrease. On the other hand, the emerging Asia economies, including the greatest two - China and India, become the new engine of the world economic growth. The short-time indicators of the global activity, trade and businesses are still historical low in almost all national economies. The great level of the world inventory and overweight capacities, together with the forecasts connected to the demand decrease, talk about new contraction of industrial output from the beginning of 2009. It is important to mention that some countries, which faced the crisis earlier, performed a decrease of the stocks (USA), while others registered a new growth in the latest months (Japan).

The statistical survey reveals that the managers recoiled and waited to a low demand. This can be translated into low investments and low employments on short term, which stimulates a second round of demand decrease. In the current economic climate the advanced economies are still affected because of the decline of banking sector and house market, which decrease the residential investments.

In our view, the growth of saving rate in USA and some EU Member States give us just a few hopes to support the national demand on short time. It is obvious that the revenue effects are greater in the developed economies than in those developing and the decrease of the financial assets grow the pressure on the consumers demand. The situation of labour markets grew worse during 2009-2010 and the

employment will decrease substantially, while the unemployment rate will grow (Ionescu, 2010).

At the beginning of 2010, the European and Japanese economies recovered slowly, while USA and the emergent market economies will grow faster, but less than the long-time average. In our opinion, this recover depends on the political measures which will be implemented, the confidence of companies and on the improvement of credit restrictions and trade fluxes, as well.

China had the best position of the emergent economies in 2010. It had a great number of political interventionist measures, in order to face the challenge of the current global crisis. In 2008, for example, the foreign reserves achieved 1.95 thousands of billions USD, the debts were relative small and the fiscal stimulus were efficient. As a result, the average rate of growth in China was 6.1% in 2009. The problem is if the Chinese economy growth will be enough to support the economy of Asia as whole.

The trade exchanges in the most important partners of the EU grew significantly. In the candidate countries, it decreased by 3.5% in 2009 and it decreased by 2% in 2010. The main contributor will be Turkey. The private consumption and the foreign demand decreased in 2009, and the evolution in 2010 was not so good.

In the potential candidate countries, the economic growth slowed by 2.5% in 2009, according to the decrease of the world demand. These countries were affected by the decrease of liquidities, but the foreign financing conditions wasted during 2009-2010.

The Russian economy grew by 5.6% in 2008, decreased by 3.8% in 2009 and grew again by 1.5% in 2010. The unemployment rate achieved 10% in 2009, twice greater than in 2008. Russia makes the process of adapting to the world trade conditions, which resulted from the decrease of rare materials. This caused a decrease of reserves (by 1/3 from the summer of 2008 till nowadays) and a depreciation of the exchange course (by 1/3 from November 2008 till nowadays).

The recession covered all EFTA states in 2009. It was implemented by the foreign sector, excepting Island, where the national currency collapsed and generated the economic crisis. The Switzerland economy faces to one of the deepest recessions in its history. The GDP decreased in 2010.

Even that the forecasts differ between countries, the world disequilibrium will not decrease on short time. The economic situation would stabilised at -3.7% of GDP in USA. China will not be able to decrease its current surplus and Japan will not be able to stabilise the revenues and to cheapen imports, in order to support the surplus of the current account.

The surplus will decrease significantly only in the oil export countries, excepting Saudi Arabia, which will be confronted with a significant deficit of the current account.

In 2010, EU outfaced a moderate deterioration from the relative equilibrate position. Moreover, we have no reason to think about a recovery in the average annual economic growth rates for 2010 and 2011.

Putting in connection these results, we can conclude that this economic situation affected the evolution of international and national flows of tourists. Thus, the international arrivals in Europe felt by 1.1% in the fourth quarter of 2009, compared with the same period in 2008. This decline in Europe was accompanied by a decline of 0.5% in the Americas and increases in Asia Pacific (5.2%), Africa (8.0%) and Middle East (9.8%).

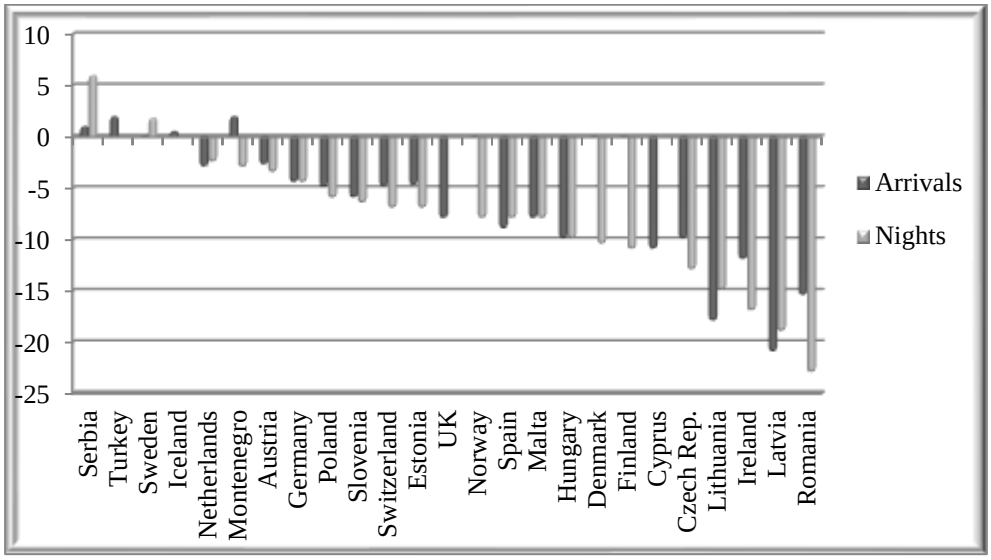

Figure 2. The international arrivals and nights in European destinations in 2010 (%)
Source: www.tourmis.info

4. Romanian vs. EU Tourism

If we consider the international arrivals and nights in European destinations, we can observe that Romania had the worst position in 2009 (see figure 2). Difficult situations have Lithuania, Ireland and Latvia, as well. Therefore, the economic recession can be associated with a tendency to take holydays at home or in the neighboring countries. This phenomenon is greater in those countries in which the crisis impact is greater, but the savings of households are still enough. Finally, it is important to recognize that Romania is not such a country because the economic

situation of the households is too bad to consider tourism as a priority. Moreover, the tourists spent less. As a result, in 2009, the corporate travel was more seriously affected than leisure travel. We can notice that the demand for hotels remains weak in 2010, with inevitable effects on revenues. The smallest declines in occupancy are reported by UK and Sweden. Malta, Belgium, France, Italy and Germany are relatively well, but Lithuania, Romania, Latvia and Slovakia registered the worst situation (see fig. 3).

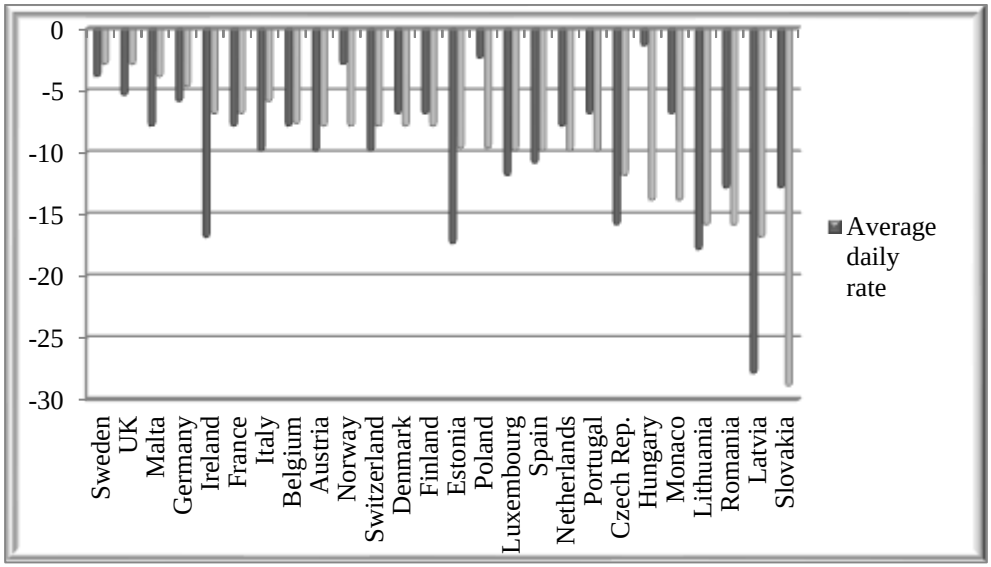

Figure 3. Hotel performance in European destinations in 2010 (%)

Source: http://www.strglobal.com

An important element which affects the international and national tourists' flows is the risk of poverty. For example, 17% of EU citizens were at risk of poverty in 2008. (Wolff P., 2010). The risk of poverty masks considerable variation between Member States. 11 Member States have a greater risk of poverty than EU27 average, Romania being on the second position (23%), after Latvia (26%). Countries with high level of poverty risk are: Bulgaria (21%), Lithuania, Spain and Greece (20%), UK, Italy and Estonia, Portugal and Poland. The lowest risk of poverty rates are recorded by Czech Republic (9%), Iceland (10%), Netherlands, Slovakia and Norway (11%). The surprises come from UK and Italy, which register high risk of poverty rates, even that they are old Member States (see fig. 4).

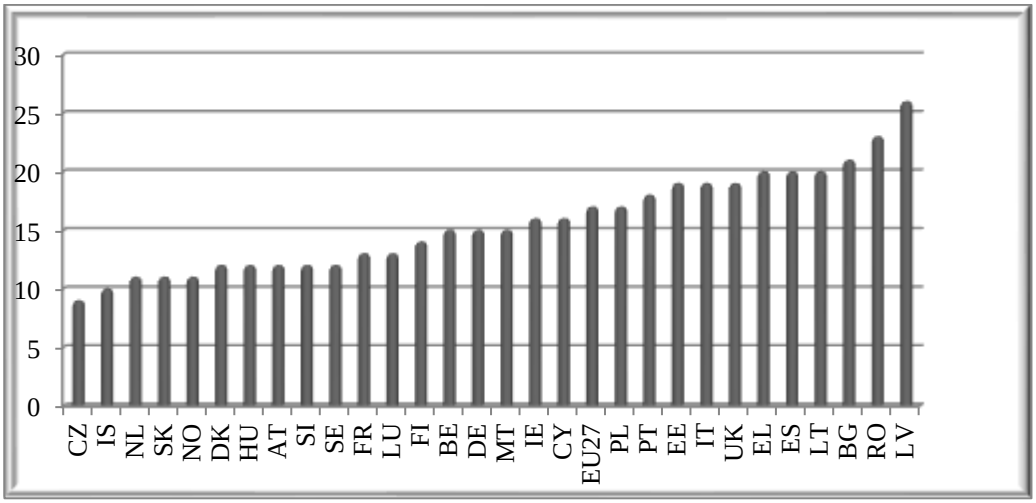

Figure 4. Risk of poverty rate (%)

Source: Eurostat (ilc_ov1a1, ilc_ov1a2)

http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-10-009/EN/KS-SF-10-009-EN.PDF

The risk of poverty is greater for children than the rest of the population. Child poverty rates ranged from 9% in Denmark to 33% in Romania and 26% in Bulgaria. There are data showing that the risk of poverty for people aged 65 or more is greater than the rest of the population. It ranged from 4% in Hungary and 5% in Luxembourg to 30% in UK, Bulgaria and Estonia, 49% in Cyprus and 51% in Latvia. The risk of poverty for the people aged 65 or more is 26% in Romania (see Table 1). Viewed from another perspective, there are great disparities between the higher and the poorest revenue in EU member states, especially in those which joined EU in the latest two waves. Unfortunately, Romania has the second poorest ratio between the greatest and the poorest revenue (7 times). The inequity in the income distribution has the high level in Lithuania, Latvia, Estonia, Bulgaria, Poland and Romania (see fig. 5).

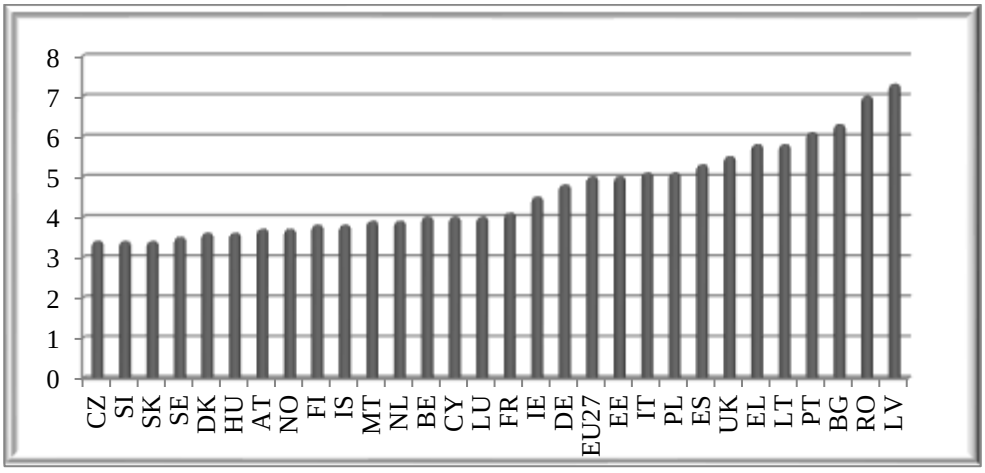

Figure 5. Income share ratio

Source: Eurostat (ilc_ov2)

Table 1 The poverty rate by age group (%) in 2010

	Total population	Children (0-17)	People aged 18-64	Elderly (65 and more)
EU27	17	20	15	19
BE	15	17	12	21
BG	21	26	17	34
CZ	9	13	8	7
DK	12	9	11	18
DE	15	15	15	15
EE	19	17	15	39
IE	16	18	14	21
EL	20	23	19	22
ES	20	24	16	28
FR	13	17	13	11
IT	19	25	16	21
CY	16	14	11	49
LV	26	25	20	51
LT	20	23	17	29
LU	13	20	13	5
HU	12	20	12	4
MT	15	20	12	22
NL	11	13	10	10

AT	12	15	11	15
PL	17	22	16	12
PT	18	23	16	22
RO	23	33	20	26
SI	12	12	10	21
SK	11	17	10	10
FI	14	12	12	23
SE	12	13	11	16
UK	19	23	15	30
IS	10	11	9	15
NO	11	10	11	15

Source: Eurostat, 2008.

Material deprivation rates complement the social exclusion picture by providing an estimate of the ratio of citizens whose living conditions are severely affected by a lack of resources. This element affects directly the tourism fluxes.

The lowest material deprivation rates are in Luxembourg (4%), the Nordic countries, Netherland and Spain (10% or less). The highest material deprivation rates are in Bulgaria and Romania (50%), Hungary, Latvia and Poland (30%).

In most countries, the material deprivation rates are higher for children than for whole population. The material deprivation rates are higher for the elderly than for whole population in Bulgaria (22%) and Latvia (15%), while it is the same with the children in Romania (58%).

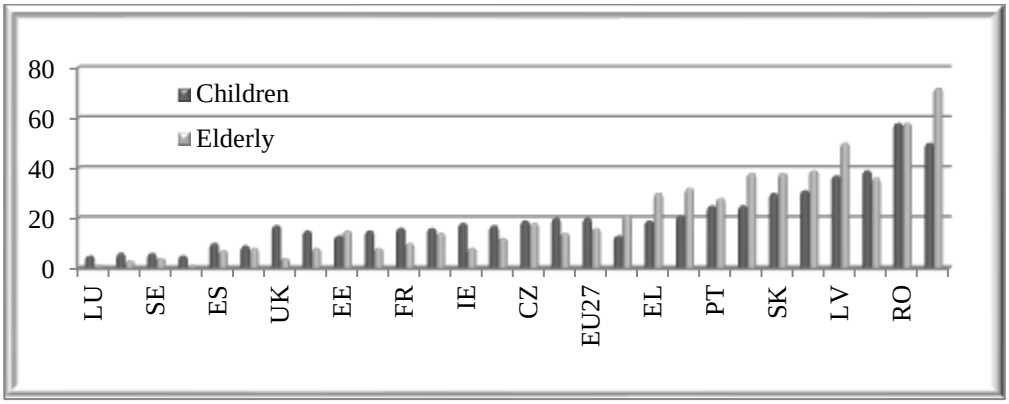

Figure 6. Material deprivation rate (%)
Source: Eurostat (ilc_sip8)

As a result, it can be noticed that Romanian tourism is not well developed and it depends heavily on domestic demand. The most international tourism flows in our country are not so big and are mainly for business purposes.

Table 2 Main tourism indicators in Romania (%)

Indicators	2000	2008
Share of international nights in the country as a proportion of total international nights in the EU27	0.2	0.3
Share of international tourism receipts in the country as a proportion of total international receipts in the EU27	0.2	0.4
Share of nights spent by EU25 residents as a proportion of total international nights in the country	56.0	67.8
Proportion of international tourism nights compared with total tourism nights in the country	12.2	17.1
Proportion of international tourism receipts in GDP	1.0	1.1
Ratio of international tourism receipts to expenditure	84.0	100.0

Source: Eurostat, 2008

The main tourism markets in Romania are Germany, Italy, France, USA, Hungary and UK. In 2008 they covered 52.2% of the nights spent by non-residents as percentage of total nights. Unfortunately, we only talk about business tourism in Romania, the number of "classic" tourists being still very low. In our opinion, Romania is an emerging country of destination and origin of tourism. The Romania tourism activity profile is connected to economic development. As a result, we can determine the tourism intensity as a ration between tourist nights and resident population. It was 0.9 in 2008. The number of Romanian tourists 15 years and over was 3,152,000 in 2008, representing 17.3% of total population. The tourism expenditure and receipts in 2008 were approximately equal: 1034 million Euros, respectively 1033 million Euros.

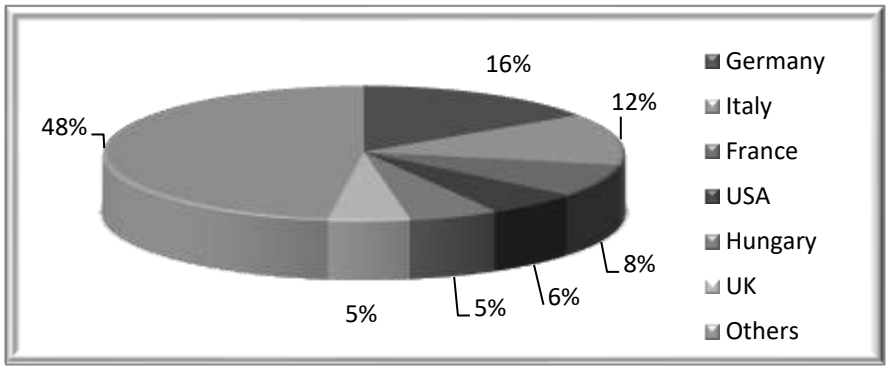

Figure 7. Main tourism markets in Romania (%)

Source: (Eurostat, 2008)

The characteristics of the tourism supply in hotels and similar establishments in Romania are presented in figure 8.

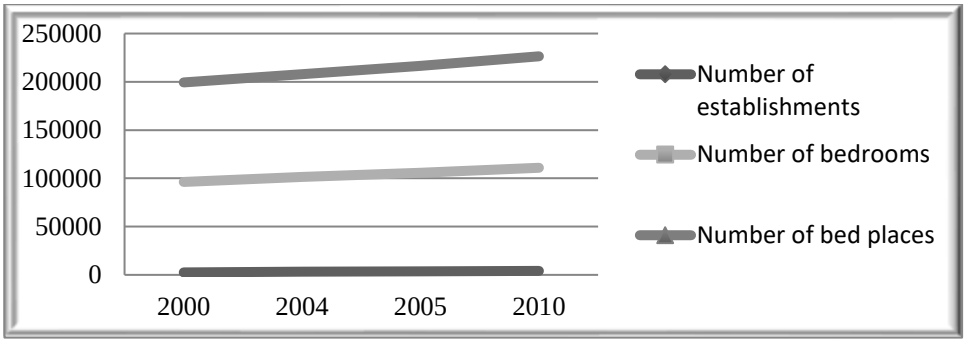

Figure 8. Main tourism markets in Romania (%)

Source: (Eurostat, 2008 , p. 88)

During 2000-2008, the annual average occupancy rate of bed places in Romania was 21.9%, the peak month being August and the maximum value recorded being 54.3% in 2004. In 2008, the Romanian tourism demand was covered by domestic tourists (82.9%) and foreign tourists (17.1%). An average value of the holiday trips was 1-3 nights for domestic tourists and 4+ nights for abroad tourists.

5. Rural Tourism Development and Its Economic Impact

The rural tourism is a relative new direction for tourism. In Romania, along with the adhering process into EU, the reform and the globalisation, lead further to new forms of tourism, which represent endless opportunities for making money. As a result, the rural tourism had an excellent opportunity to flourish. Rural tourism is based on the use of sites' own advantages. Of course, the rural tourism development process in Romania is still at the exploratory stage and it is inevitable to face different kinds of problems, but overall, the prospect is still considerable.

The results of our analysis confirm that there is a strong link between rural tourism progress and the development of village living environment, rural folk culture, rural scenery, agricultural production and its natural environment-based tourism activities. In our view the cumulative effects consist in a propagation of villages of natural and cultural objects for tourism attraction and tourism activities. Last but not least, we believe that eco-tourism areas belonging to a village of human object for tourism activities attraction fall within the scope of cultural tourism. Therefore, rural tourism can include tour of rural environments and rural folk cultural tourism.

Rural tourism began in France and United States. Its initial development is the development of a space holiday choice. The development of rural tourism has embarked on the track, showing strong vitality and increasing potential for development. The vast majority of rural tourists enjoy a lower price level of consumption, lower grade of travel services and lower levels of spiritual experience in the tourism area. Overall, the current demand for rural tourism is becoming increasingly multifaceted. It covers diverse characteristics of tourist travel development trend and cultural tourism on the environment, closely integrated multi-functional, complex rural tourism, an increasingly strong demand for the product. The rural tourism is a connotation of a great variety of tourism activities. In other words, different regions, different groups of rural tourism products will have a certain demand, so the face of rural tourism development and construction of the overall tourism consumer market would be based on individual needs at different levels. The rural tourism has a great impact on local communities.

In Romania, the village is the basic component of the rural space. On the other hand, there are different rural communities, but rural tourism can be the engine of rural areas development. The rural tourism can produce benefits in the rural areas, because it supports the sustainable use of natural, cultural and historical traditions. The local gastronomy is important, as well. All these elements are able to realise a touristic brand able to express notoriety and to ensure a sustainable development. As a result, it is necessary to implement a long-term development strategy, connected to other strategies (infrastructure, agriculture, environment), which will be able to support a significant economic growth. Moreover, the development of traditional activities (handicraft) and the superior valorization of ecological food can become key elements of the welfare, development and the solution for maintaining cultural identity.

6. What Europeans Can Find Out about the Rural Tourism in Romania and Bulgaria?

When a potential tourist looks for a rural tourism destination, the first impression about Romania is not good. On the same dedicated international site related to the rural tourism, the differences between the Romanian and Bulgarian sites are significantly. There are at least three kinds of differences, connected to general presentation, information volume and number of possibilities.

The Romanian site indicates that rural tourism existed before 1990, but not in an organized way. Romanian legislation improvement in the field is presented as a necessity not only to develop the rural tourism, but “to diminish the black rural tourism market” or to eliminate “the great number of demands for accommodation classification and the insufficient number of inspectors from the Ministry of Tourism”. Practically, a potential tourist can easily observe that the rural tourism in

Romania faces to a lot of problems. A comparative analysis with the Bulgarian site is not favorable for us. The Bulgarian site stated in a different style: “rural tourism and farm tourism started its development in Bulgaria in the mid 90's. Rural tourism and farm tourism in Bulgaria concerns villages which in most cases have preserved their traditional outlook and genuine rural atmosphere (a famous example is the village of Momchilovtsi in the Rhodope region)”. Certainly, it is something else, comparing to Romania. The unpleasant surprises continue when the same tourist can find only a single dedicated tourism organisation (ANTREC) for Romania, its site and only information about the French/Dutch 'Operations Villages Romanian', which has a “booklet with 18 addresses in Transylvania and Maramures (info available by phone or via Dutch, French and Romanian specific antennas)”. The last part of the Romania’s site is dedicated to the rural tourism training organisations.

The Bulgarian site talks about a very good and elaborated network of national parks existing in Bulgaria and gives the governmental web address.

According to the rural tourism marketing organisations, the same site talks about seven organisations, not one as in Romania: BARET - Bulgarian Association of Rural and Ecological Tourism, BAAT - Bulgarian Association of Alternative Tourism, Pirin Tourism Forum Varosha Quarter, Stara Planina Association, Bourgas Regional Tourism Association, Varna Tourism Chamber and Rhodopi Regional Association. These organisations are connected to specific touristic regions from Bulgaria and have their own webpage with all necessary information.

Putting in connection the results of our study, the first conclusion is that Bulgaria offers more information about its rural tourism capacity than Romania. The problem is that the Internet is the most used tool by the potential tourists. These tourists can decide their destination only from the dedicated sites, and Romania is not on a good position.

7. Comparative Analysis of Economic Factors which Support the Rural Tourism in Romania and Bulgaria

In order to analyze the rural touristic potential of Romania and Bulgaria, it is important to point out those factors which may develop or stop the rural tourism in both countries. These important factors are: the road infrastructure and the wage level. The rural touristic destinations are accessed using the road infrastructure, which has to provide an easy access to all touristic locations. The Romanian government is, as usual, very optimistically when announce that 400 km highways will be operable by the end of 2011. Nowadays, the main connections with the rural tourism locations are made by the national roads. In 2010, 621 km of national roads were rehabilitated. The government objective for 2011 is another 261 km of

rehabilitation roads, which cost 170 million Euros. The most important rehabilitation in 2011 is Petrosani-Simeria (80 km). The problem is that this road which will be finish in 2011 is a road already travelled. The works began in 2003 for two sections: Petrosani-Baru and Hateg-Simeria. The section Baru-Hateg started on November 2007. These sections directly support the access to some interesting rural tourism locations. The sections of highways and national roads which will be finish in 2012 are made by foreign companies. Comparing, in 2010, Bulgaria already had 459 km highways. Bucharest-Constanta and Timisoara-Arad highways will be finish in 2011. Constanta auto belt of 32 km is planned to be finish by the end of 2011. It will be realise under the highway standards, in order to streamline the road traffic on the Bucharest-Constanta highway and on Tulcea-Vama Veche road connection. The value of the contract is about 437 million lei (without VAT). If these projects will be finished, Romania will implement the 4th Pan-European Way in 2015. The problem is that the Sibiu-Pitesti section (117 km) is still "highway in preparation" and it was not brought to the hammer. But the Ministry of Transports declared that the 4th Pan-European Way is a priority for Romania. The road infrastructure is important in order to support the access to the rural touristic locations and regional development, as well. A great part of this sum is assigned to CNADNR. In 2010, CNADNR benefited of 1.7 billion Euros (Neferu A., 2011). In 2011, the Ministry of Transports' investment budget is about 2 billion Euros. Cernavodă - Medgidia section (19 km) is made by the French company: Colas. The second sector of the same highway, Medgidia-Constanta, is made by the Italian company: Astaldi and by the German company: Max Boegl. By the end of 2010, the Ministry of Transports announced that Romania will have another 243 km of highways until 2012. Romania has 314 km of highway now: Bucharest - Pitesti (111 km), Bucharest - Cernavoda (151 km) and Campia Turzii - Gilau (52 km). This means 145 km less than Bulgaria. Other four sections of highway will be finished by 2012: Suplacu de Barcau - Bors (64 km), Moara Vlasiei - Ploiesti (42.5 km), Bucharest - Moara Vlasiei (19.5 km) and Deva – Orastie (32.8 km). The problem is that the government is not able to coordinate the works' completion. In 2008, the Romanian government promised 1000 km of highway until 2012 and at the beginning of 2011, Romania had only 314 km. The key issue is if Romania will be able to finish the difference of 686 km until 2012? On the other side, the highways will be made by section and not as a whole. Therefore Romania will not have an East-West or a North-South highway able to cross the country in 2012.

Our neighbour, Bulgaria, has a different approach about the road infrastructure. This approach is related to the high growth of motorized vehicles' number and the road transports' development, as well. Thus, the density of Bulgaria's road network is close to the average density in EU countries, but in terms of highways, this country lags significantly behind. This is why the Bulgarian government is focused on an important road infrastructure plan: the construction of seven motorways,

seven highways, and two bridges over the Danube and a new tunnel under the Shipka pass in the Balkan Range (Harizanova, 2011). The achieving of these construction projects will allow Bulgaria to reach the average EU level of road infrastructure. The Bulgarian highway plan is related to cross-European transport networks and it is focused on the link between the strategic geographical destinations in the country. The first highway (Trakia) connects the Adriatic and the Black Sea, as a section of a greater road link: Central and Eastern Europe and Asia and the Near East via the port in Burgas. Other highways will create the links between Sofia and the Black Sea, Bulgaria, Turkey and Greece (Maritsa highway) or will redirect the cross-European transport corridors (Lyulin highway near Sofia). There are other highways projected to be implemented until 2020.

The most important conclusion, resulted from this comparative analysis with Romania, is that the Bulgarian approach is better than Romanian. Bulgarian government succeeded in constructing highways which are also priorities for European Commission. Viewed from another perspective, Bulgaria succeeded in accessing EU funds for these highways under the Operational Programme Transport 2007-2013. And maybe the most important thing is that the Bulgarian government succeeded into a maximum cooperation with EU, which covers experts, new models of management and a higher quality, a different strategy and a huge employment. This is the way on which Bulgaria will receive the support from the European Commission, the Jaspers initiative, the European Investment Bank, the European Bank for Reconstruction and Development, and the World Bank. The second part of our comparative analysis is favorable to Bulgaria. This country has a better evolution of road infrastructure, more pertinent projects and a better EU support. The rural tourism cannot be promoted and developed under a weak road infrastructure, even if nature, the natural landscapes, is more fabulous in Romania. We attempt through this study to analyze the evolution of wages level in both countries. The main idea is that the domestic rural tourism has to be greater than the foreign one, and this kind of tourism is accessed having money. The minimum gross wages across the EU varied from 123 Euros per month in Bulgaria, 157 Euros in Romania and 1642 Euros in Luxembourg. In six member states, the minimum wages is 10 times greater than in Romania: UK, France, Belgium, Netherland, Ireland and Luxembourg (FedEE, 2011). The evolution of the minimum wages in Bulgaria and Romania is presented in figure 9.

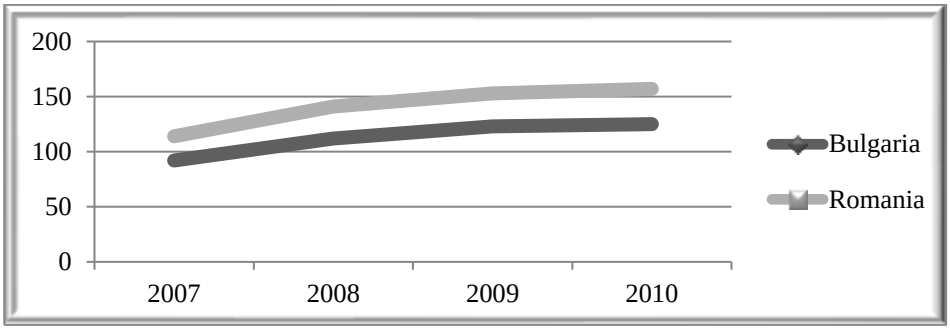

Figure 9. Minimum wage's trend in Bulgaria and Romania (Euros)

Source: (Czech, 2009, p. 2)

Our first impression is a positive one for Romania, where the minimum wage is greater than in Bulgaria. On the other side, this optimistic point of view came up against two problems. First is that the minimum wage in Romania represents only 33% of the average wage. As a consequence, Romania is ranked on the last position across the EU, worse than Bulgaria. The second problem is that the costs of rural tourism services in Romania are greater comparatively with Bulgaria. Deepening and expanding financial crisis triggered the tourism as a whole across the Europe. Romania and Bulgaria faced the great difficulties in order to pass the recession impact on tourism, including rural tourism, as well. However, Bulgaria was able to find better solutions in order to support the tourism activities. As a result, Romania had the greatest decrease of the nights spent number in the EU in 2010 (-7.1%). Meanwhile, Bulgaria achieved a growth of 6.6% in the same year. Moreover, Romania is the member state with the lowest number of nights spent by non-residents (18%), while Bulgaria achieved 70% (NIS, 2010). According to the Romania National Institute of Statistics, the tourism position was worst in 2010 related to 2009. Moreover, the net use indices of the tourists' accommodation capacity in use, for rural tourism' type of establishments are not good (see fig. 10).

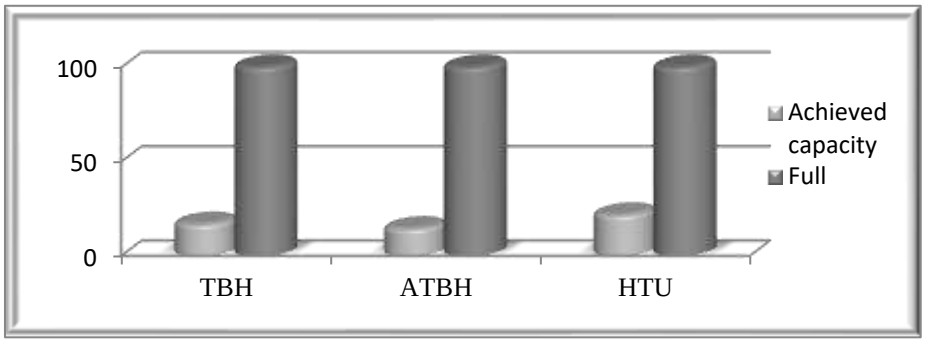

Figure 10. The net use indices of the tourists' accomodation capacity in use (%)

Source: (National Institut of Statistics, 2010, p. 41)

The capacity was only 16.6% in tourist boarding houses (TBH), 14.2% in agro-tourism boarding houses (ATBH) and 21.5% in house-let – type units (HTU) in 2010.

8. Modeling of Rural Tourism Impact in Romania and Bulgaria

The cumulated effect of the above information on rural tourism development is quantified using the multiple linear regressions. The resultative dependent variable is the evolution of tourism destination and the factorial variables are the road infrastructure investment and the average level of wages in both countries. This information is operated under the dedicated software SPSS17. The Pearson correlation coefficient between the evolution of the tourism destination and the factorial variables is 0.69 and the determined ratio R^2 (square multiple correlation coefficient) is 0.471. The regression analysis covers the capacity in agro-tourism boarding houses (VAR 00001), the minimum wage (VAR 00002) and the highways' development in km (VAR 00003).

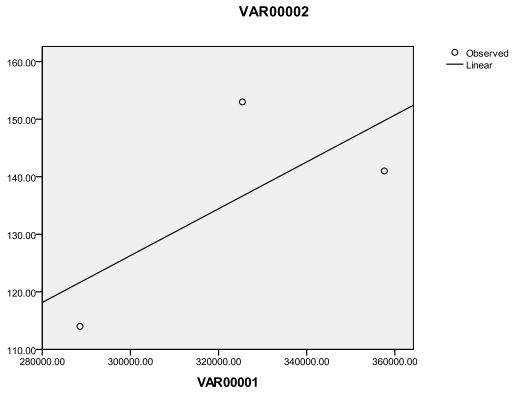

Figure 11. The correlation between the minimum wage and the capacity in agrotourist boarding houses (2007-2009)

According to figure 11, the impact of the minimum wages on the rural touristic capacity is powerful in 2009, maybe as a result of the crisis' effects.

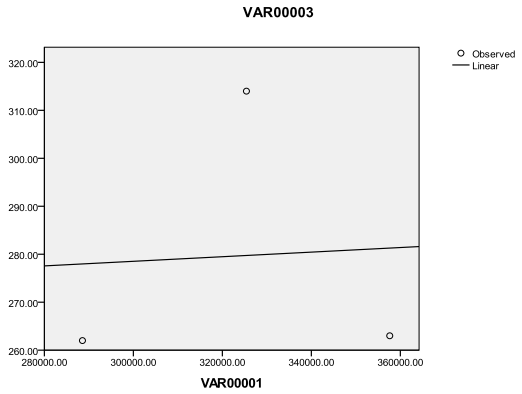

Figure 12. The correlation between the minimum wage and the highways' development in km (2007-2009)

Figure 12 presents the correlation between the capacity in agro-tourism boarding houses and the highways' development in km. The correlation is weak. This means that the highways are less important for the rural tourism development as the national and rural ways.

In order to complete our analysis we realised a forecast scenario for 2010-2011. The forecast was made for 2010 because there is no information for this year, and the last European quarterly report about tourism uses very few information about tourism in 2010 (European Travel Commission, 2011).

The results of the forecast scenario are presented in figure 13.

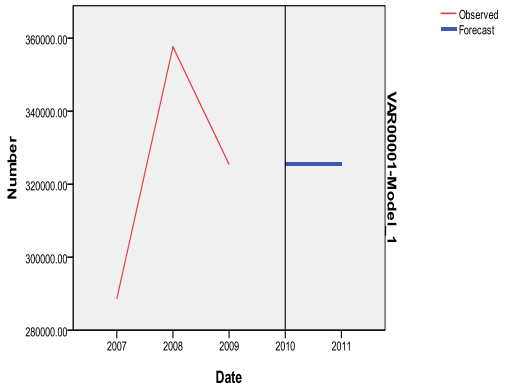

Figure 13. The rural tourism forecast in Romania (2010-2011)

The results of this analysis confirm that, by the end of 2011, important changes in rural tourism evolution won't be recorded. Practically, the Romanian rural tourism

will further be confronted with a powerful competition from other countries, like Bulgaria, Turkey or Greece.

9. Conclusions

It is important to point out that the statistical definition of tourism is broader than the general accepted definition. It encompasses not only private travel but also business travel. This is primarily because it views tourism from an economic perspective. Private travelers and business travelers have broadly similar consumption patterns. They both make significant demands on transport, accommodation and restaurant services.

Providers of these services are not so interested whether their customers are private tourists or on business. On the other side, tourism promotion departments are keen to combine both aspects by emphasising the attractiveness of conference locations as tourist destinations and they give particular prominence to this in their marketing activities (Eurostat, 2009). Nowadays, tourism is a result of the economic development more than of the natural landscapes. As a result, Romania main challenge in tourism is how to develop tourism under restrictions of economic slowdown, bad infrastructure and low financing. Europe is still confronted with to the recession effects and, therefore, tourism can be a solution to regional sustainable development, especially for those areas which benefit by beautiful landscapes and authentically traditions. An important change in rural tourism is the way in which the consumers buy trips. The latest online analysis of the European tourism market forecasted that more than one third of tourism market will be cover by online consumers (PhoCusWright, 2010). Hence, the potential tourists consult the web pages, in order to obtain information about the rural tourism. The web pages related to Romanian rural tourism are not attractively and do not give enough information about the rural tourism locations and their gateways.

Romania road infrastructure is worse than Bulgarian and the access to the locations is more difficult. Finally, it is important to recognize that Romanian households' revenues are not able to support the rural tourism development.

The results of this research highlight that even if rural tourism is an activity strongly affected by the economic recession, it has no deadline for its powerful development.

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Competitiveness on the International Tourism Market

Anca Gabriela Turtureanu[1]

Abstract: This paper comes to present and analyze the features of tourism in the main countries in Central and Western Europe, as well as the different strategies these countries adopt in order to maintain the competitiveness of the field. In the beginning, we have defined competitiveness, as the prerequisite of market success, we have analyzed its components and the main factors that determine it, as well as the competitiveness – competitive advantage relation. During the last years, competitiveness has turned into one of the common concepts used in order to approach and describe the sustainable development of the tourism and travel industry. Expert literature has defined concepts such as tourism and travel competitiveness or touristic destinations competitiveness, suggesting not only the significance of the concept but also the emphasis that touristic organizations should lay on this aspect. The competitiveness of touristic destinations and, generally speaking, the global competitiveness of the tourism industry became vital for the survival and growth of the touristic organizations on the international market, provided by the growth of spare time and the growth of the level of income that is available for spending the time.

Keywords: competitiveness; tourism industry; destinations; rank

JEL Classification: D41, L80, L83, L89

1. Introduction

The European tourism industry faces a series of significant challenges. Although the total number of international incomings in Europe is still rising, Europe has lost a part of its market share lately. Tourism became a global phenomenon, that involves the fact that Europe must compete with other worldwide destinations. Moreover, globalization, the internet and the rapidly changing consumers' behavior have a more and more significant impact on the tourism industry, as well as the more significant concern regarding the ecological pattern of activities in tourism.

Tourism is an essential field of the European economy. It contains a variety of products and destinations and involves many actors, both from the public and private sphere, with very decentralized qualification areas, often at a local and regional level.

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The tourism industry generates more than 5% of the European Union GDP, with as much as 1.8 million of companies that represent nearly 5.2% of the total labor force (nearly 9.7 million workplaces). If we take into account the related fields, the estimated contribution in the GDP is far more significant: tourism generates in an indirect manner more than 10% of the EU GDP and it employs as much as 12% of the labor force.

There are numerous other definitions of competitiveness. For example, the Organization for Economic Cooperation and Development defines it as: "the ability of the companies, fields, regions, states or supranational organizations, finding themselves in an international competition, to ensure in a sustained manner a high income from the capitalization of the factors of production, as well as a superior income from the capitalization of workforce".

This definition emphasizes in a clearly manner the decisive impact the competitiveness of a nation has on the level of incomes and implicit on the living standard in that country, emphasizing the social finality of the competitiveness growth.

Another definition was elaborated by the General Directorate for Economic and Financial Affairs with the European Commission. "Competitiveness – experts of the European Commission claim – is the ability of one country to coordinate the economic growth with the external balance; at the basis of the external performances of the industrialized countries stands the essential significance the foreign trade represents. Though, emphasizing the role that the product differentiations has in the competitive strategies of the companies, the industrial economy has limited this type of approach, considering that it does not represent an adequate basis for a broad evaluation of competitiveness."

2. Tourism Competitiveness

The International Institute for Management Development elaborates each year a classification of the most competitive nations in the world, upon a well-defined set of criteria, trying on one hand to provide useful information to the interested investors, and on another hand, to provide a documentation material useful to the analysts. The study analyses the competitiveness concept including the theoretical point of view, trying to explain the way the main criteria that lay at the basis of the study enroll in the general frame of defining the competitiveness idea. Therewith, the respective study contrasts a series of specific elements considered to be competitiveness factors: attractiveness versus cohesion, proximity versus globalization, assets versus processes, individual risks assumption versus social cohesion.

The first pair factor consists of the "attractiveness – aggressiveness" elements and it is considered to determine the differentiation of nations by the way they administrate their relations with the international business community. Traditionally, competitiveness is considered as international "aggressiveness" of countries, materialized through exports and foreign direct investments. Countries such as Germany, Japan, China, South Korea have successfully adopted this kind of strategy. Other countries (Ireland, Singapore), administrate their competitiveness by stimulating investments and making them more attractive by doing this.

Aggressiveness generates incomes in the origin countries, but no workplaces. Attractiveness creates workplaces in the host countries of the foreign direct investments, but they can bring low incomes due to the offered incentives. And so, no country, not even those with a high level of welfare, can ignore attractiveness, especially due to the strong impact on the workplaces.

Even though, theoretically, countries should consider both factors in order to successfully compete on the actual international market, many of them are oriented towards a single one. Thus, Ireland is not extremely aggressive on the international market, and South Korea is not attractive for the investments; the United Kingdom, considered to be an advocate of aggressiveness tends to become preponderant attractive, and Switzerland follows a totally contrary trend. The only country that seems to remain as well aggressive and attractive is the USA.

World Economic Forum claims in its yearly report that "Tourism competitiveness is an important economic indicator. It is a major element in economic stimulation packages. Tourism is among the largest employers in most countries and also a fast-lane vehicle into the workforce for young people and women. Encouraging travel boosts consumer and business confidence; it strengthens two-way trade and promotes export income".

In 2011, 983 million international touristic incomings were registered all around the world, with an increase of 4.6% compared to 940 million in 2010. The first 25 international tourist destinations in 2011 were:

Rank	Country	UNWTO Region	International tourist arrivals (2011) / million	International tourist arrivals (2010) / million	Change (2010 to 2011)
1	France	Europe	79.5	77.1	+3.0%
2	United States	North America	62.3	59.8	+4.2%
3	China	Asia	57.6	55.7	+3.4%
4	Spain	Europe	56.7	52.7	+7.6%
5	Italy	Europe	46.1	43.6	+5.7%
6	Turkey	Europe	29.3	27.0	+8.7%
7	United	Europe	29.2	28.3	+3.2%

	Kingdom				
8	Germany	Europe	28.4	26.9	+5.5%
9	Malaysia	Asia	24.7	24.6	+0.6%
10	Mexico	North America	23.4	23.3	+0.5%
11	Austria	Europe	23.0	22.0	+4.6%
12	Russia	Europe	22.7	20.3	+11.9%
13	Hong Kong	Asia	22.3	20.1	+11.1%
14	Ukraine	Europe	21.4	21.2	+1.0%
15	Thailand	Asia	19.1	15.9	+19.8%
16	Saudi Arabia	Middle East	17.3	10.9	+59.8%
17	Greece	Europe	16.4	15.0	+9.5%
18	Canada	North America	15.9	16.1	-0.8%
19	Poland	Europe	13.4	12.5	+7.1%
20	Macau	Asia	12.9	11.9	+8.4%
21	Netherlands	Europe	11.3	10.8	+3.8%
22	Singapore	Asia	10.3	9.1	+13.4%
23	Hungary	Europe	10.2	9.5	+7.8%
24	Croatia	Europe	9.9	9.1	+9.0%
25	South Korea	Asia	9.7	8.7	+11.3%

Source: "2012 Tourism Highlights". UNWTO. June 2012.

Competitiveness suggests safety, efficiency, quality, high level of productivity, successful adaptability, modern management, superior products. The touristic potential of one destination grows at the same time with the number of its components, their quality, the way of territorial association, etc. the success of one tourist destination is determined by the way it succeeds in guaranteeing as well as ensuring its visitors, through its whole offer, an experience that matches or outruns the multiple alternative destinations. The main factor of success of one destination is represented by the attractiveness elements it offers: natural and anthropic tourist attractions doubled by the multiple options for spending free time both by day and by night, according to the actual competition conditions.

UNWTO Tourism Highlights, 2012 Edition assumes that by 2011, more than 503.96 million international tourist arrivals were registered in Europe, with a 6.2% increase comparing to 2010. In 2011, the top ten destinations were:

Rank	Country	International tourist arrivals (2011)/ million
1	France	79.50
2	Spain	56.69
3	Italy	46.12
4	Turkey	29.34
5	United Kingdom	29.19
6	Germany	28.35
7	Austria	23.01
8	Russia	22.69
9	Ukraine	21.42
10	Greece	16.43

Source: "2012 Tourism Highlights". UNWTO. June 2012. and "World's top destinations by international tourism receipts". World Tourism Barometer. UNWTO. May 2012.

Tourism industry in Europe became a major significant field for the European economy. As the tourism demand in Europe has constantly risen, the tourism companies have generated additional workplaces and investments. In the last decade, the rate of workplaces creation in the European tourism industry was over the average, from the whole European ensemble point of view. Tourism industry plays a significant role regarding the employment for women, young persons and the low qualified persons. Due to this phenomenon, the tourism industry has been considered an industry with a decisive impact on reaching the European goals for economic and workplaces development, as it is postulated in the Lisbon Strategy.

The cash returns in the international tourism have risen to 1.03 billion US dollars (740 million Euros) in 2011, which corresponds to a real growth of 3.8% compared to 2010. The World Tourism Organization reports the following countries as the top ten returns states in 2011, with the United States of America on the first place, at a great distance from the other top countries.

Rank	Country	UNWTO Region	International tourism receipts (2011)
1	United States	North America	$116.3 billion
2	Spain	Europe	$59.9 billion
3	France	Europe	$53.8 billion
4	China	Asia	$48.5 billion
5	Italy	Europe	$43.0 billion
6	Germany	Europe	$38.8 billion
7	United Kingdom	Europe	$35.9 billion

8	Australia	Oceania	$31.4 billion
9	Macao (China)	Asia	$27.8 billion
10	Hong Kong (China)	Asia	$27.2 billion

Source: "World's top destinations by international tourism receipts". World Tourism Barometer. UNWTO. May 2012.

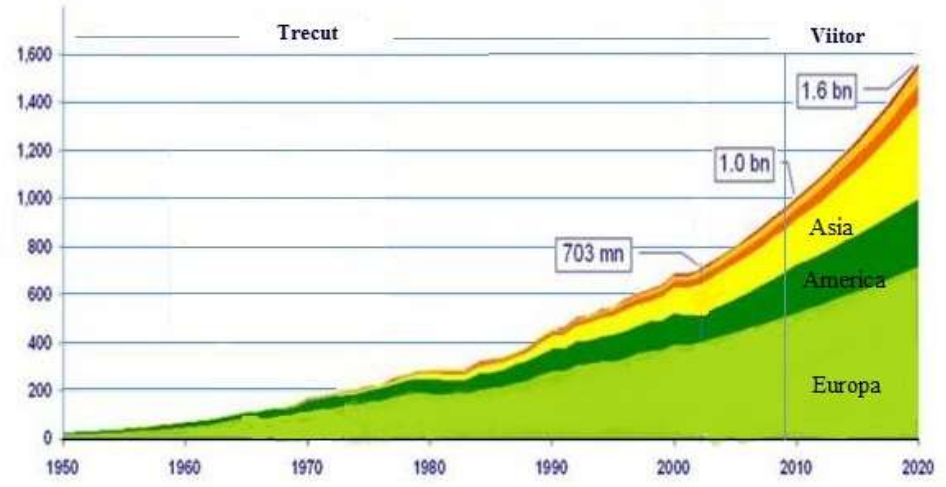
The World Tourism Organization specifies that the following countries would be the top ten most spendthrift countries in the international tourism of 2011:

Rank	Country	UNWTO Region	International tourism expenditure (2011)
1	Germany	Europe	$84.3 billion
2	United States	North America	$79.1 billion
3	China	Asia	$72.6 billion
4	United Kingdom	Europe	$50.6 billion
5	France	Europe	$41.7 billion
6	Canada	North America	$33.0 billion
7	Russia	Europe	$32.5 billion
8	Italy	Europe	$28.7 billion
9	Japan	Asia	$27.2 billion
10	Australia	Oceania	$26.9 billion

Source: "World's top destinations by international tourism receipts". World Tourism Barometer. UNWTO. May 2012.

The European region will remain the most important tourist destination in the international tourism. By 2020, Europe will maintain its international arrivals percentage, even though this percentage will decrease from 60% in 1995 to 46% in 2020. In absolute figures, this phenomenon corresponds to a growth of nearly 400 million arrivals, up to 717 million international tourist arrivals.

Table 1. Estimated evolution of the international tourist arrivals, 1950-2020



Source: World Tourism Organization

3. Conclusions

Two of the most significant innovations that have influenced the structure of the tourism industry in the last 15 years are, undoubtedly, the emergence of low cost transporters and the Internet. With a high access to the internet, the consumers were able to book, at a stroke, for example, online transportation or accommodation, at as much as the same price as the one offered by a tourism operator. These innovations have had an significant impact on the structure of the tourism industry. New concepts, called "dynamic wrapping" (where consumers can plan all their holidays) have been introduced by the tourism operators, as a response to this evolution. Up to now, this concept has been used especially on the more mature markets, such as the Central and Western European ones.

As it has been shown before, 14 European destination have been successfully registered in the top 25 2011 international tourism destinations.

Europe, as a tourist destination, offers a large variety of attractions. These attractions include culture, funfairs, festivals, museum and gastronomy. Excepting these attractions, which represent the basis of tourism development, the niche products, that gain more and more importance, interact with the wellness tourism, ecotourism and the active tourism. Even though most of the attractions have a limited coverage in tourist attraction, most of the tourists visit a region due to the diversity of the specific attractions.

Cultural tourism represents one of the largest and fastest developing markets, and the cultural and creative industries are more and more used in order to promote destinations and grow their competitiveness and attractiveness.

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Microeconomics

Discussions on n Substitutable Goods Production and Consumption

Catalin Angelo Ioan[1], Gina Ioan[2]

Abstract: The analysis takes into account the issue of production of n consumer goods whose destination is either the mass of workers who have contributed to them or third parties such as social categories, the directly unproductive or abroad. In the analysis, we considered, for simplicity, utility and production functions of Cobb-Douglas type that allowed finally getting interesting conclusions on the relationship between the appropriate elasticities.

Keywords: production; consumption; Cobb-Douglas

JEL Classification: F41

1. Introduction

The problem about equilibrium between production and consumption is particularly delicate.

Currently there are several theoretical models at both microeconomic and macroeconomic level trying to provide solutions to balance the production so as not appear an over or underproduction.

This analysis takes into account the issue of production of n consumer goods whose destination is either the mass of workers who have contributed to them or third parties such as social categories, the directly unproductive or abroad.

In the analysis, we considered, for simplicity, utility and production functions of Cobb-Douglas type that allowed finally getting interesting conclusions on the relationship between the appropriate elasticities. All items considered were assumed to be perfect substitutes, competition being also perfect.

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2. Theoretical Analysis

Let consider a number of n goods, perfect substitutes, G_i, $i=\overline{1,n}$ produced by n companies F_i, $i=\overline{1,n}$ that have a number of workers – L_i and capital – K_i.

We will consider that the production function for the good G_i is Cobb-Douglas type:

(1) $Q_i= A_i K_i^{\alpha_i} L_i^{\beta_i}$, $\alpha_i,\beta_i\in(0,1)$, $A_i>0$, $i=\overline{1,n}$.

For each company F_i, let the price of the labor L_i – p_i and the price of capital K_i – q_i.

The total cost of production of the good G_i is:

(2) $CT_i(K_i,L_i)= p_iL_i+q_iK_i$.

Now consider that each firm sets a good production $\overline{Q_i}$ for the good G_i, $i=\overline{1,n}$.

The minimizing of the total cost for production of G_i leads to:

$$(3)\begin{cases}\min\left(p_iL_i+q_iK_i\right)\\ Q_i(K_i,L_i)\geq\overline{Q_i}\\ K_i,L_i\geq 0\end{cases}.$$

The above nonlinear programming problem is subject to Karush-Kuhn-Tucker conditions which states that the problem:

$$(4)\begin{cases}\min f(x_1,...,x_n)\\ g_i(x_1,...,x_n)\leq 0,\ i=\overline{1,p}\\ h_j(x_1,...,x_n)=0,\ j=\overline{1,q}\\ x_1,...,x_n\geq 0\end{cases}$$

where $f,g,h\in C^2(D)$, D – domain, has the solution $(\bar{x}_1,...,\bar{x}_n)$ if $\exists\lambda_i\in\mathbf{R}_+$, $i=\overline{1,p}$ $\exists\nu_j\in\mathbf{R}$, $j=\overline{1,q}$ such that:

$$(5)\begin{cases}\nabla f(\bar{x}_1,...,\bar{x}_n)+\sum_{i=1}^{p}\lambda_i\nabla g_i(\bar{x}_1,...,\bar{x}_n)+\sum_{j=1}^{q}\nu_j\nabla h_j(\bar{x}_1,...,\bar{x}_n)=0\\ g_i(\bar{x}_1,...,\bar{x}_n)\leq 0,\ i=\overline{1,p}\\ h_j(\bar{x}_1,...,\bar{x}_n)=0,\ j=\overline{1,q}\\ \lambda_i g_i(\bar{x}_1,...,\bar{x}_n)=0,\ i=\overline{1,p}\end{cases}$$

where ∇F is the gradient of F defined by: $\nabla F=\left(\frac{\partial F}{\partial x_1},...,\frac{\partial F}{\partial x_n}\right)$.

On detail, the Karush-Kuhn-Tucker conditions becomes:

$$(6)\begin{cases}\frac{\partial f}{\partial x_k}(\bar{x}_1,...,\bar{x}_n)+\sum_{i=1}^{p}\lambda_i\frac{\partial g_i}{\partial x_k}(\bar{x}_1,...,\bar{x}_n)+\sum_{j=1}^{q}\nu_j\frac{\partial h_j}{\partial x_k}(\bar{x}_1,...,\bar{x}_n)=0,\ k=\overline{1,n}\\ g_i(\bar{x}_1,...,\bar{x}_n)\le 0,\ i=\overline{1,p}\\ h_j(\bar{x}_1,...,\bar{x}_n)=0,\ j=\overline{1,q}\\ \lambda_i g_i(\bar{x}_1,...,\bar{x}_n)=0,\ i=\overline{1,p}\end{cases}$$

The Karush-Kuhn-Tucker conditions are sufficient if f, g_i, $i=\overline{1,p}$ are convex of class C^2, and h_j, $j=\overline{1,q}$ are affine functions.

In the particular case of our problem, we have:

$$(7)\begin{cases}q_i-\lambda\frac{\partial Q_i}{\partial K_i}=0\\ p_i-\lambda\frac{\partial Q_i}{\partial L_i}=0\\ Q_i(K_i,L_i)\ge\overline{Q}_i\\ \lambda\left(\overline{Q}_i-Q_i(K_i,L_i)\right)=0\end{cases}$$

where, as p_i, $q_i\neq 0$ follows:

$$(8)\begin{cases}q_i-\lambda\frac{\partial Q_i}{\partial K_i}=0\\ p_i-\lambda\frac{\partial Q_i}{\partial L_i}=0\\ Q_i(K_i,L_i)=\overline{Q}_i\end{cases}$$

After the removal of λ:

$$(9)\begin{cases}q_i\frac{\partial Q_i}{\partial L_i}=p_i\frac{\partial Q_i}{\partial K_i}\\ Q_i(K_i,L_i)=\overline{Q}_i\end{cases}$$

From (1) and (9) follows:

$$(10)\qquad \begin{cases} K_i^* = \dfrac{p_i^{\frac{\beta_i}{\alpha_i+\beta_i}}\alpha_i^{\frac{\beta_i}{\alpha_i+\beta_i}}\overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}}{A_i^{\frac{1}{\alpha_i+\beta_i}}q_i^{\frac{\beta_i}{\alpha_i+\beta_i}}\beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}} \\ L_i^* = \dfrac{q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\beta_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}}{A_i^{\frac{1}{\alpha_i+\beta_i}}p_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}} \end{cases}$$

Also, from (2) and (10), the total cost function becomes:

$$(11)\qquad CT_i = p_iL_i^* + q_iK_i^* = \frac{(\alpha_i+\beta_i)p_i^{\frac{\beta_i}{\alpha_i+\beta_i}}q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}}{A_i^{\frac{1}{\alpha_i+\beta_i}}\alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}}$$

Now consider the selling price r_i of the good G_i. The received income is: $V_i = r_i\overline{Q}_i$, and the profit:

$$(12)\qquad \Pi_i(\overline{Q}_i) = r_i\overline{Q}_i - \frac{(\alpha_i+\beta_i)p_i^{\frac{\beta_i}{\alpha_i+\beta_i}}q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}}{A_i^{\frac{1}{\alpha_i+\beta_i}}\alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}}$$

The extreme condition of the profit: $\Pi_i'(\overline{Q}_i) = 0$ implies:

$$(13)\qquad r_i = \frac{p_i^{\frac{\beta_i}{\alpha_i+\beta_i}}q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}-1}}{A_i^{\frac{1}{\alpha_i+\beta_i}}\alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}\beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}}$$

We will assume below, that not all of the amount produced is consumed by the workers, some of which being for those who are not directly productive (social assisted, educational, health, public administration etc.) or those not being part of production of the considered goods. We will denote by $\mu_i \in (0,1)$ the share of the good G_i consumption reported to the total production $\overline{Q}_i$.

We will also consider that the total income of a worker is allocated to consumption of goods in some $\sigma \in (0,1)$, the difference being allocated to pay taxes or consumption of foreign goods in other manufacturing companies.

Let consider now the utility function, the same for all consumers, of Cobb-Douglas type:

(14) $U(x_1,...,x_n)= Bx_1^{\gamma_1}...x_n^{\gamma_n}$, $\gamma_i\in(0,1)$, $i=\overline{1,n}$, $\gamma_1+...+\gamma_n=1$, $B>0$

corresponding to the n goods.

The total disposable income (for purchase of goods G_i, $i=\overline{1,n}$) of the $L=\sum_{i=1}^{n} L_i^*$ workers is:

$$(15)\qquad \sum_{i=1}^{n}\sigma p_i L_i^* = \sum_{i=1}^{n}\sigma \frac{p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}}{A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}}$$

Proceeding as above, from the Karush-Kuhn-Tucker conditions, it follows that the utility maximization under budget constraint: $\sum_{i=1}^{n} r_i\mu_i\overline{Q}_i \le \sum_{i=1}^{n}\sigma p_i L_i^*$ satisfies:

$$(16)\qquad \begin{cases} \dfrac{\partial U}{\partial \overline{Q}_1} = ... = \dfrac{\partial U}{\partial \overline{Q}_n} \\ r_1 \qquad\qquad\quad r_n \\ \sum_{i=1}^{n} r_i\mu_i\overline{Q}_i = \sum_{i=1}^{n}\sigma p_i L_i^* \end{cases}$$

Using (10), (13), (14) we get:

$$(17)\qquad \begin{cases} \dfrac{\gamma_1 A_1^{\frac{1}{\alpha_1+\beta_1}} \alpha_1^{\frac{\alpha_1}{\alpha_1+\beta_1}} \beta_1^{\frac{\beta_1}{\alpha_1+\beta_1}}}{\mu_1 p_1^{\frac{\beta_1}{\alpha_1+\beta_1}} q_1^{\frac{\alpha_1}{\alpha_1+\beta_1}} \overline{Q}_1^{\frac{1}{\alpha_1+\beta_1}}} = ... = \dfrac{\gamma_i A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}}{\mu_i p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}} = ... = \dfrac{\gamma_n A_n^{\frac{1}{\alpha_n+\beta_n}} \alpha_n^{\frac{\alpha_n}{\alpha_n+\beta_n}} \beta_n^{\frac{\beta_n}{\alpha_n+\beta_n}}}{\mu_n p_n^{\frac{\beta_n}{\alpha_n+\beta_n}} q_n^{\frac{\alpha_n}{\alpha_n+\beta_n}} \overline{Q}_n^{\frac{1}{\alpha_n+\beta_n}}} \\ \sum_{i=1}^{n} \dfrac{p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}} (\mu_i - \sigma\beta_i)}{A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}} = 0 \end{cases}$$

Noting with λ the common value of the ratios, we obtain:

$$(18)\qquad \begin{cases} \dfrac{\gamma_i A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}}{\mu_i p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}}} = \lambda, i=\overline{1,n} \\ \sum_{i=1}^{n} \dfrac{p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}} (\mu_i - \sigma\beta_i)}{A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}} = 0 \end{cases}$$

from where:

$$(19)\qquad \begin{cases} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}} = \dfrac{\gamma_i A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}}{\lambda\mu_i p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}}}, i=\overline{1,n} \\ \sum_{i=1}^{n} \dfrac{p_i^{\frac{\beta_i}{\alpha_i+\beta_i}} q_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \overline{Q}_i^{\frac{1}{\alpha_i+\beta_i}} (\mu_i - \sigma\beta_i)}{A_i^{\frac{1}{\alpha_i+\beta_i}} \alpha_i^{\frac{\alpha_i}{\alpha_i+\beta_i}} \beta_i^{\frac{\beta_i}{\alpha_i+\beta_i}}} = 0 \end{cases}$$

Substituting in the second equation follows:

$$(20)\qquad \sum_{i=1}^{n} \frac{\gamma_i(\mu_i - \sigma\beta_i)}{\mu_i} = 0$$

or, taking into account that $\gamma_1+...+\gamma_n=1$:

$$(21)\qquad \sum_{i=1}^{n} \frac{\gamma_i\beta_i}{\mu_i} = \frac{1}{\sigma} > 1$$

Let now the expression $\Omega_i = \mu_i - \sigma\beta_i$, $i=\overline{1,n}$. Beacuse γ_i, $\mu_i>0$, from the relation (20) we get that if $\Omega_i\geq 0$, $i=\overline{1,n}$: $\sum_{i=1}^{n} \frac{\gamma_i(\mu_i - \sigma\beta_i)}{\mu_i} \geq 0$ therefore the equality holds only for $\Omega_i=0$ that is: $\mu_i=\sigma\beta_i$, $i=\overline{1,n}$.

Following this result, we obtain from the assumption that consumption of a high enough rate of production of a particular good, it will be, inevitably, upper limited by the product between the share of income allocated to consumption and the corresponding elasticity of the good's labor. On the other hand, in terms of fixed capital and a constant number of workers, the elasticity depends (for the Cobb-Douglas function) directly from the logarithm of labor productivity. Therefore, a

higher share of consumption (and therefore a higher share of production achieved) can be obtained only under labor productivity growth.

Analogously for $\Omega_i \leq 0$, $i=\overline{1,n}$. In this case, assuming a rate below a certain level of consumption of all goods, will push consumption to equal the product between the share of income allocated to consumption and the corresponding elasticity of the good's labor.

If $\exists\ i=\overline{1,n}$ such that $\Omega_i \neq 0$ therefore $\mu_i \neq \sigma\beta_i$ then $\exists k \neq p=\overline{1,n}$ such that: $\mu_k > \sigma\beta_k$ și $\mu_p < \sigma\beta_p$.

In other words, for a given elasticity of labor, it exist in this case two products for which the share of consumption is lower limited by the product of the share of income allocated to purchase the n products and the elasticity of labor in the corresponding production, and upper limited respectively.

For the good G_k, an increase of the labor elasticity (under the same part of the income allocation) will push up the rate of consumption of G_k. Similarly, for the good G_p, a reduction of the elasticity of labor (under the same part of the income allocation) will push down the rate of consumption of G_p.

Returning at the equation (21), we have for two goods: $\frac{\gamma_1\beta_1}{\mu_1}+\frac{\gamma_2\beta_2}{\mu_2}=\frac{1}{\sigma}$ with $\gamma_1+\gamma_2=1$ from where:

(22) $$\gamma_1=\frac{\mu_1\mu_2-\sigma\mu_1\beta_2}{\sigma(\beta_1\mu_2-\beta_2\mu_1)},\ \gamma_2=1-\gamma_1$$

The Jensen's inequality says that for every convex (concave) function $f:D\subset\mathbf{R}\to\mathbf{R}$, the following inequality holds: $f\left(\frac{\sum_{i=1}^{n}\xi_i x_i}{\sum_{i=1}^{n}\xi_i}\right)\leq(\geq)\frac{\sum_{i=1}^{n}\xi_i f(x_i)}{\sum_{i=1}^{n}\xi_i}$ $\forall x_i\in D,\ \forall\xi_i>0$. The equality becomes effective if and only if: $x_1=...=x_n$.

In particular, for $\sum_{i=1}^{n}\xi_i=1$ și $f(x)=\ln x$ follows:

(23) $$\sum_{i=1}^{n}\xi_i x_i\geq\prod_{i=1}^{n}x_i^{\xi_i}$$

For $x_i \to \frac{1}{x_i}$ we have: $\prod_{i=1}^{n} x_i^{\xi_i} \geq \frac{1}{\sum_{i=1}^{n} \frac{\xi_i}{x_i}}$ therefore:

(24) $$\sum_{i=1}^{n} \xi_i x_i \geq \frac{1}{\sum_{i=1}^{n} \frac{\xi_i}{x_i}}$$

Again, in particular, for $\xi_i = \frac{\beta_i}{\mu_i}$ we obtain: $\sum_{i=1}^{n} \gamma_i \frac{\beta_i}{\mu_i} \geq \frac{1}{\sum_{i=1}^{n} \gamma_i \frac{\mu_i}{\beta_i}}$ therefore, from (21):

(25) $$\frac{1}{\sum_{i=1}^{n} \gamma_i \frac{\mu_i}{\beta_i}} \leq \frac{1}{\sigma}$$

For $\beta_i = \beta$, $i = \overline{1,n}$, we have:

(26) $$\sum_{i=1}^{n} \gamma_i \mu_i \geq \sigma\beta$$

Let us note, in relation to formula (26), that $\sum_{i=1}^{n} \gamma_i \mu_i$ is the weighted average of the consumer utility rates with the utility elasticities in relation to each product and is lower bounded by the product of the allocated income share and the labor elasticity.

If, in addition, $\mu_i = \mu$, $i = \overline{1,n}$ then the equation (26) becomes equality and we have:

(27) $$\mu = \sigma\beta$$

Therefore, at the same elasticity of labor and consumption the same share of each product, the share of consumption will be equal to the product between the part of the income allocated and the labor elasticity. An increasing of the share can be achieved, in this case, either by increasing σ, or by increasing the elasticity of labor.

3. Conclusions

The above analysis reveals, through the formula (21), that the share of consumption goods relative to production is dependent on both the elasticity of production and

that of the utility function in relation to consumption of each good, but also from the share of income allocated to purchase those goods.

In the Romanian conditions, where the labor elasticity is 0.51 and assuming that the share of consumption relative to production of goods is the same, we see that this is about half ($\mu=0.51\sigma$) from the disposable income share of earnings workers allocated to purchase goods. The output gap (whose rate is 0.49 σ) will address to the rest of the population.

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