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Rethinking or, better said, re-analyzing the presence configuration of the economic crisis, as it is known from the years of experience of this event, becomes currently a burden for the theorists rather than for practitioners. Although, if we come to think about it, the economic policies decision-makers are, or should be directed toward grounding the economic measures to the content and logic of the consistent economic theory. Through the delays in adaptation to the realities of the global economic crisis, the economic theory generates “failures” regarding the formulation of effective measures for mitigating or minimizing the effects of the crisis at an eco-social level.

The actuality of interventionism in the context of the global crisis and also the economic thinking and the governmental programs in a world marked by globalization and the economic crisis represents an exciting topic and an amply discussed problem, and most of all, disputed. This is not surprising since the global economic crisis has triggered a multitude of effects with resonances both in theory and practice which in turn sparked controversy and debates.

There aren’t many novelties in the economic theory visible in the applicative plan, with all the analysis and scientific research efforts. But it is, perhaps, a driven factor for the current and of perspective economic scientific research. The difficulty, as claimed by Thierry de Montbrial (The action and the world system, 2003) is represented by the fact that the “economy is judged from the outside, from the exclusive point of view of its immediate social usefulness, which means from its ability to improve the community business management”. Or, in this regard, the persistent failure of some of the current economic policies, are due not only to the complexity of the conditions of manifestation but to the new paradigms that subtly change the application plan. A generalization of the market may lead to bridging the gaps but, weakening the state power reduces the control on economic conflicts.

The interventionism thesis can be accepted or rejected. In the same manner, the implementation decisions may be recognized as beneficial or opposing the liberalism. Of importance is their effect on the society currently under crisis extended.

Editor-in-Chief
Professor Mariana Iovițu, Ph.D.
Measures to encourage development of eco-industries represent an important part of the programs of many countries; analyses of different international organisms reveal a series of advantages of this sector for economy. According to OCDE “The environmental goods and services industry consists of activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems”. The paper analyses the advantages of eco-industry and based on environmental expenditure is made an estimation of eco-industry development potential in Romania. In the second part of paper are presents the main action for promotion of eco-industry in EU and Romania.

**Keywords**: eco-industry, policies, potential, measures

In the last decade a number of policies, have been target to reduce the environmental footprint of the economy and reduce the use of raw materials, is also remarks change in the structure of the environmental sector is shifting from “end-of-pipe” equipment and clean-up services to “clean” environmental technologies and products. Moreover environmental pressures lead to the increasing of demand for environmental technology, therefore a eco-industry is a prerequisite for sustainable economic growth. “Taking into account the collective experience the best way to improve framework for an strong and balances economic increasing is to invest in green economic recovery” (UN Secretary General Ban Ki-moon, 2010).

The OECD/Eurostat Informal Working Group has agreed on the following definition: “The environmental goods and services industry consists
of activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems”.

The recent study of international organism (OECD, EUROSTAT) and scientific community already agrees that development of this sector brought an series of advantages for economy. Large investments have, in fact, been earmarked in many countries around the world. The renewable energy sectors: solar, wind, biofuels, ocean currents and tidal projects all received unprecedented funding by governments and private investors (Henderson, 2006).

Beside the direct beneficial effects to the environment (protection, conservation, restoration, etc.) the environment market increases the potential of materials (through recycling, reuse) create new jobs, value the potential of research and development, scientific and technical incentives. Prospects for eco-industry and market environment is good, every ten years, the necessary volume for equipment and control apparatus will increase by about 50% and 80%. (Bran).

At international level eco-industry sector is one of the most competitive, according to a report published in 2009 by EC, the eco-industry in EU had a turnover of €232 billion (2.2% of GDP) in 2004 and €319 billion (2.5% of GDP) in 2008. As can be seen in Figure 1, the four largest sub-sectors of eco-industry are waste management, followed by water supply, wastewater management and recycled materials.

![Figure 1: Sizes of sectors within eco-industry, Source: EC, 2009](image-url)
According to report “Law carbon jobs for Europe” (WWF, 2009) jobs in low-carbon sectors are outstripping those in Europe’s traditional polluting industries. The polluting industries: mining, electricity, gas, cement, iron, steel and other polluting industries register 2.8 million jobs in Europe (WWF, 2009).

The study estimates renewable energies employ 400,000 people, green transport 2,1 people and energy-efficient goods and services employ 900,000. The green jobs refer to production, installation and maintenance of wind turbines and solar panels, or construction activities for energetic efficiency building. All these activities have increased considerably, especially those based on wind, solar and bio-energy. The report reveals a total of 5 million jobs indirectly related to green economic activities. European countries with the largest number of green jobs are Germany, Spain and Denmark for wind power, Germany and Spain for solar power.

Moreover, environmental services, that include development and maintenance of necessary infrastructure (eg. Waste management, pollution control, maintenance of protected areas, renewable energies, prevention of natural hazardous, even activities such as protection of natural heritage) provides an important prerequisite for creating new jobs.

The potential of eco-industries makes this area important but in Romania the sector is very weak representative compared with EU average and monitoring are still not based on statistic documents. (IER, 2006).

In Romania the share of eco-industries is under represented in comparison with the EU average, and is also a general problem of other new EU member states. (IER, 2007).

Approximation of eco-industrial potential can be achieved on the basis of expenditure on environmental protection, that reflect the environmental and financial flows include payments for economic activities aimed at production of specific services to prevent, reduce or control environmental damage. These are grouped into: investment and running costs which in turn include internal current expenditure (salaries and social security contributions, consumption of raw materials, fuel, energy, water and other auxiliary materials, expenses for research and development, training, information) and external current costs (costs of environmental protection services purchased from third parties and as environmental taxes paid). On environmental areas, the largest potential is for waste management followed by water and air protection.

Specialized producers have registered the largest waste management
costs (about 76% of total expenditure for this area). For water protection, the largest expenditure was made by the government (39.0%), while for air protection; higher costs were recorded for non-specialized producers (76.7%). (INS, 2008).

Tabel 1: Environmental protection expenditure in 2008

<table>
<thead>
<tr>
<th>Environmental domain</th>
<th>Total</th>
<th>non-specialized producers</th>
<th>Specialized producers</th>
<th>Public administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air protection</td>
<td>1.619.272</td>
<td>1.242.606</td>
<td>55.984</td>
<td>320.682</td>
</tr>
<tr>
<td>Water protection</td>
<td>3.508.767</td>
<td>788.120</td>
<td>1.352.751</td>
<td>1.367.896</td>
</tr>
<tr>
<td>Waste management</td>
<td>8.927.767</td>
<td>1.072.457</td>
<td>6.778.036</td>
<td>1.077.274</td>
</tr>
<tr>
<td>Soil and underground water protection</td>
<td>760.807</td>
<td>619.630</td>
<td>65.817</td>
<td>75.630</td>
</tr>
<tr>
<td>Noise and vibration control</td>
<td>32.594</td>
<td>8.900</td>
<td>3.165</td>
<td>20.529</td>
</tr>
<tr>
<td>Natural resources protection and biodiversity conservation</td>
<td>212.147</td>
<td>141.974</td>
<td>21.900</td>
<td>48.273</td>
</tr>
<tr>
<td>Other environmental domain</td>
<td>1.416.737</td>
<td>643.107</td>
<td>50.582</td>
<td>723.048</td>
</tr>
</tbody>
</table>

Source: INS, 2008

At international level, a series of integrated measures in various policies and programs have had implications on the development of eco-industries, in the following we will analyze these measures and their implementation in Romania.

“Environmental Technologies Action Plan ETAP”, provides information for actions to be taken at European level to promote environmental technologies to reduce pressure on natural resources and improving life quality. Environmental technologies are defining as “technologies, products, services, utilities, management systems and organizational of that production or application involves reducing the negative environmental impact compared with relevant alternatives technologies.” The objectives stages of ETAP are as
follows:

- Transfer of technology from research stage to market availability
- Research, innovation and dissemination of results
- Technology Platforms validation / certification of environmental technologies
- Improving market conditions
- Environmental Management Systems
- Mobilization of funding sources
- Economic instruments
- Green Public Procurement
- Information, education and training
- Global action
- Support for development of eco-technologies in third countries and foreign investment promotion

To develop an database on environmental technologies at European level was created a new web-based geographic service to assist the public to locate environmental technology and eco-efficient innovation players in the world. “Atlas of environmental technologies” (fig.2) aimed at providing support to private companies and public organizations to find sources of new environmental technologies in Europe, with details on location and information on companies, knowledge centers and major technological facilities.

Figure 2: Atlas of environmental technologies, Source: http://technologies.ewindows.eu.org/atlas_map
In Romania the Ministry of Environment and Forests coordinates the elaboration and implementation of the policy in the field of environment technologies according to Government decision no. 1568/2008 regarding the approval of the Road Map for the implementation of the Environmental Technologies Action Plan.

The action plan for environment technologies ETAP Romania encompasses actions and projects under the following guide lines: actions support for research and development, improvement of the testing-certifying systems for environment technologies, improvement of the environment performance, making available the financing sources, the improvement of the market conditions, setting up a coherent legislation and monitoring for the green public procurement, information, education and training and promotion on green technologies at the global level.

Green procurement was recommended to promote sustainable production and consumption patterns and the World Summit on Sustainable Development, Johannesburg 2002. Recommendation of the council to improve environmental performance of public procurement consist in integrating environmental issues into the procurement of goods and services.

To help interested parties (public authorities, private firms, suppliers of goods and services, contractors), EC issued a “Manual for green procurement”, which explain the modalities for introducing environmental considerations in public procurement procedures. According to this the contracting authorities can introduce environmental criteria in different phases of the acquisition process as follows: the contract (contract name); qualification criteria and selection; technical specifications; evaluation criteria; clauses of contract performance. To support green procurement, also, European Council adopted a regulation that require to public authorities to purchased products labelled “Energy Star”, that representing the energy-efficient products.

The impact of green procurement was significant, considering that according to a research report of European Commission, European public authorities spend over € 1,000 billion on goods, services and works. Over 2.8 million computers are purchased each year. Thus, the purchase of more efficient models of energy would reduce energy bills and greenhouse gas emissions over 830.000 CO2 more green energy purchase would contribute one quarter to the fulfilment by the Kyoto Protocol tons, using efficient toilets and sanitary facilities would reduce consumption by 200 million tons of liquid, equivalent to 0.6% of total consumption in the European Union household.
In Romania, according to the regulations in force, the contracting authority has the right to use awarding criteria based on environmental characteristics or define the technical specifications by relating to environmental standards. Also, it has been drafted The Romanian National Action Plan on Green Public that introduces a set of voluntary and mandatory ‘green’ targets for groups of products, services, and works, scheme, and penalties for the authorities that will not meet the targets.

Some of the actions have been done for promotion of environmental technology and green procurements. The Life Project Application of Industrial Ecosystems Principles to Regional Development – ECOREG implemented in Suceava County, have as objective the application of industrial symbiosis principles, allowing regional symbiotic development with a minimum impact upon the environment. One of the specific objectives of the project is to reduce the natural resources used as raw materials. More specifically, the project aims to reduce natural resource consumption of the partners; reduce environmental impact-related expenses by 20-50% for each partner; and identify best practices and disseminate these at national level. The main result foreseen is a reduction in the amount of industrial waste disposed.

Conclusions

Development of eco-industries in Romania should be a necessary prerequisite for sustainable development taking into consideration the positive effects on the economy, already registered in EU countries. For development of the sector in Romania, it is necessary to coordinate policy measures, in the sphere of small and medium enterprises and innovation and research policy. Moreover, we underline some specific measures: supply of data and information to develop the field, exchange of experience at national and regional level, transfer of international good practices, internalisation of environmental costs, considered a major obstacle in developing eco-industry, increasing financial incentive mechanisms and development of research in this field.

References


This paper treats the sustainable development concept, which aims to support economic growth in terms of environmental sustainability and human development. For that purpose the paper shows the concept of sustainable development’ origins and enlargement, the transition from the economic development paradigm to the sustainability paradigm as is seen through the three sustainability’ dimensions (economic, social and environmental). It is made an analysis of environmental and business sustainability in the context of economic development, due to the fact that sustainable development comprises environmental protection, and environmental protection is a determinant of sustainable development. Without the environment protection, there is no sustainability. As a conclusion, the implementation of the environmental strategies in organizations should be a policy priority in order to meet the needs of current and future generations.

Keywords: sustainable development, economic development, sustainability, environmental sustainability, environmental strategies.
Introduction

Since the industrial revolution in nineteenth century Europe, continuing desire of mankind to progress rapidly, involved a rate of resource consumption, superior to the recovery capacity of the planet without taking into account environmental impacts, resulted in damage to ecosystems, loss of biodiversity and climate change.

Among the factors contaminants include:

• **Industry** contaminant listed as the main factor includes three types of influences pollutant by:
  
  » *liquid waste* - which often is discharged untreated into rivers and oceans – affecting marine life and hence our;

  » *solid waste* - also often are thrown direct on the ground or buried in unsuitable areas, affecting human health through pollution infiltrating into the soil and spread diseases by insects attracted to waste;

  » *air pollution* - which brings major climate change, locally and globally.

• **Deforestation** and intensive cultivation of the land, leading to loss of soil nutrients, thus leading to low yields - as example we mention the rape culture;

• **High water consumption**, resulting, mitigation, hydro stocks in lakes, below the emergency or drying them.

So people, exercising voluntary or involuntary a negative influence on the environment, by exhausting resources or causing contamination, they have as the single purpose only the benefit. Also, a deficient management of resources, has led to an increased environmental problems. But, we also can adopt measures and create strategies, to ensure that our existence can also have a positive impact on the environment. People depend by the natural environment to survive - all our needs come from it.

The concept of sustainable development, has become the new official paradigm for the humans development. This represents the bridge between economics, society and the environment. It is therefore necessary to understand the fundamentals of this development and the role that companies play in this relationship.
Origin and development of the concept of development

In an attempt to shape the development of the concept of environmental sustainability, the seventies years are presented as a reference for new approaches to economic and social development of the century.

At the end of the twentieth century, the concept of sustainable development as a new and ambitious goal of guiding humanity in its striving for growth and survival. It is a concept that provides a future vision for confrontation growing problem of environmental deterioration and unequal distribution of resources, concept that is greeted with great confidence by the international community.

Specifically, 1972 is a key year because it coincides with a series of political speeches, economic and social development of strategies in all areas. In this year’s energy crisis began and was published the first report by the Club of Rome of the concerning of growth limits, (known as the Meadows Report), celebrated its first Conference on the Human Environment in Stockholm, and was signed in Paris, the World Heritage Convention, it is also the starting year of the new program of the European Economic Community Environment.

The concept of sustainability receives international attention since the advent “World Conservation Strategy 1980” developed by the International Union for Conservation of Nature, Programul Națiunilor Unite pentru Mediu (UNEP) și Fondul Mondial pentru Natură (WWF), defined as characteristic of a process or status that can be maintained indefinitely “(IUCN, UNEP, WWF, 1980). The term “sustainable development” does not refer to a steady state, fixed, but highlights the dynamic nature of development and refers to the effort required to maintain a process to continuously progress. The term sustainable development is described for the first time in the year 1987 with the report “Our Common Future” prepared by the World Commission on Environment and United Nations Development (WCED), called Brundtland. This is when they begin reflections on the concept of sustainable development Report. This is the time when they begin to reflect on the concept of sustainable. Brundtland Report, presents sustainable development as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Brundtland Report, aimed, creating a working document to serve as a reference for setting policies in accordance with conservation.

Brundland report by development means human progress. Analyzing
seemingly simple definition of sustainable development, we see that it contains two essential factors: human needs and limitations of the global system. Regarding the first factor, WCED believes that the primary objective of sustainable development is the satisfaction of needs, and that only when people's basic needs are met, occur the sustainable development through economic growth. However, does not explain clearly enough what is meant by a better quality of life, once basic needs are covered, instead, specifies that all persons shall have equal access to the goods and the perceived needs are determined culturally and socially. Equity mentioned by the committee, refer to a current social justice and equity between present and future generations.

Regarding global system boundaries, they vary depending on the types of resources, for example, nonrenewable resources, renewable resources and the many services that the environment provides and the ability to assimilate waste, climate change, air and water resources implicitly clean, food resources, etc. Species of animals or plants as renewable resources can be preserved for future generations, whether their use rate can not exceed their regeneration and natural growth (sustainable performance). On the rate of extraction of non-renewable resources (fossil fuels and minerals), should not be exhausted until a replacement is found or an acceptable alternative, and emphasis should be placed on an efficient, reuse and recycling. Regarding support systems biosphere, atmosphere, water, soil etc. The Commission proposes to minimize the effects of these elements to ensure basic environmental functions such as maintenance of the ozone layer and the Earth’s temperature.

Brundtland report served as the conceptual basis for the United Nations Conference on Environment and Development, known as the Earth Summit, held in Rio de Janeiro in June 1992. It was the largest meeting of heads of government ever made, which was attended by 182 countries to discuss environmental and sustainability acquires through which institutional character. This meeting resulted in agreements relating to various historical sustainable development principles that have shaped policy and practice for the last two decades. These include:

- Economic development and environmental protection to be integrated;
- There must be greater equity within countries and between rich and poor countries;
- Needs to improve scientific and technical knowledge related to sustainable development;
• Governments should protect citizens from environmental issues;
• must be studied and simulated environmental impact before adopting projects to determine environmental impacts;
• Must recognize the role and importance of women in society - which often play a vital role in environmental management and development of young people so that they can meet the needs of future generations, indigenous people because of their knowledge and traditional practices related to environmental management.

Since the Earth Summit in Rio have been made at international level, several agreements and plans related to sustainable development. These include:

• **The adoption of the Programme of Action of “Agenda 21”,** which is an agreement by the United Nations (UN) to promote sustainable development undertaken at the Earth Summit, referring to the twenty-first century. This represents a detailed plan of action to be greeted at the international, national and local, international bodies and non-governmental organizations in all areas where there is human effects on the environment. United Nations Commission on Sustainable Development (UNCSD), under the United Nations in December 1992 trying to control and provide information on the implementation of the agreements at the local, national and international.

• **Millennium Development Goals**, must be comply by the all 189 UN member states by 2015. Of the 8 goals, Goal 7 - Ensure environmental sustainability, is to ensure that sustainable development principles are incorporated into national policies and programs and reverse the loss of environmental resources, reducing or slowing biodiversity loss significantly by 2010, reducing the a half until the 2015 the population without access to safe drinking water and basic sanitation; significantly improve of life in 2020, at least 100 million slum dwellers.

• **United Nations Framework Convention on Climate Change**, which seeks to prevent adverse effects of climate change.

Agreements above indicates a good level of progress in many areas, including a better understanding of the importance of sustainable development. However, despite these agreements, global exploitation continues, mainly as a result of consumer demand.
From the paradigm of economic development to the sustainability paradigm

For a better understanding of things have to make a distinction between the concept of sustainable development and sustainability. Sustainability is considered a long-term goal, ie a sustainable world and sustainable development of processes and ways forward to achieve this goal, for example, agriculture and sustainable forestry, sustainable production and consumption, a responsible government, research and transfer technology, education and training, etc. (UNESCO, 2012). Sustainability is a paradigm of thinking about a future in which environmental considerations, social and economic balance in the pursuit of development and ensure a better quality of life. These three areas, society, environment and economy are interconnected (UNESCO, 2012).

Initially, in the 60 - 70, economic development paradigm in relation to environmental performance was seen as a limiting factor for growth (Jimenez and Rams, 2002). However, with the advent of environmental issues in the early seventies, it was recognized that there is indeed significant gaps in the paradigm for decades, leading to a new analysis of economic development, the new aspects and perspectives adopted (Sunkel and Leal, 1985).

Sustainability paradigm is a major change from previous paradigm of economic development, with its disastrous consequences and social environment, which until recently were regarded as inevitable and acceptable. However, we understand now that these serious and threats to human welfare and the environment as a result of economic development do not match their location within the paradigm of sustainability (UNESCO, 2012).

With time, the sustainability paradigm was supported by theories of environmental remarked complementary role for technological progress and economic growth. The reasons for this relationship was recognized are divided into two categories (Sunkel and Leal, 1985):

(1) The negative effects of economic development on the environment, have negative repercussions on their own development process and call into question his goals and even his ability to be sustainable and permanent.

(2) By implementing natural resources and environment in strategies, plans and policies for economic and social development is a rich source sees better opportunities for economic and social development, especially in the medium and long term.
Thus appears the so-called **sustainable development strategy** that trying to cover issues of economic growth, social and environmental. Is to design a growth model that allows prosperity of present without compromising the ability of future generations growth. This strategy was outlined in international forums such as the OECD and the EU (Jimenez and Rams, 2002).

Although the concept of sustainable development proposed by the WCED continues to be quoted most frequently occurring many interpretations of the concept of sustainable development. Figure 1 shows the configuration of sustainable development and the situation in landscape development proposals. This represents a growth model aimed prosperity of present without compromising the ability of future generations growth.

![Diagram of sustainable development](image)

**Figure 1**: Perspectives and paradigms of development  
Source: Meadows (1972)

Below we present more detailed discussions on the environmental sustainability and the three dimensions of sustainability (environmental, socio-cultural and economic).

**Environmental sustainability in the context of sustainable**

In the scientific literature, we find the concept of sustainable development in different aspects of preservation resource exploitation. A basic distinction made by economists sustainability as very weak, weak, strong and very strong. The debate on these different notions of sustainability is based on
the possibility of replacing natural capital with capital built by people.

Regarding the notion of strong sustainability, its followers believe that certain features of nature and living species, the ozone layer can not be replaced with capital made by people. In this sense, the concept of strong sustainability is seen as human economic capacity to maintain critical natural capital. This conservative attitude and population growth implies zero or even negative (strong sustainability). This approach came to be called extreme durability taken to absurd strong, meaning that appear intact preservation of nature as we find it today (Daly, 1995).

Regarding the notion of weak sustainability, advocates define this as maintaining natural and human capital. Weak sustainability is based on the belief that nature has instrumental value for people and waste of resources and environmental services can be compared to investments in new technologies and alternative mechanisms. Particular interest of this vision of sustainability is that natural capital decreases not once consider the possibility of replacing natural capital with capital items. From the perspective of neoclassical economics that allows infinite substitution between natural capital and human (very low development), sustainable development is considered equivalent sustainable growth without the need for conservation.

The three dimensions of sustainability: environmental, socio-cultural and economic

In time, the dominant conception of sustainable development passed from discussion about natural capital and considered other aspects of human development. In this sense, the concept includes highlighting the economic, social and environmental aspects of sustainability, the idea of participation of all sectors of society in decision-making and responsibilities differentiation rich and poor (Meadowcroft, 2000). In this sense, there are three dimensions of sustainable development:

- **Environmental sustainability** must ensure that development is compatible with maintaining essential ecological processes, biological diversity and natural resources.

- **Social and cultural sustainability** should ensure that sustainable increases individuals’ control over their own lives, to ensure that sustainable development is compatible with the culture and values of individuals and communities that maintain and reinforce identity.
• **Economic sustainability** should ensure that development is economically efficient, beneficial to all agents in the affected region and that resources are managed so as to preserve for future generations.

A very common vision of sustainable development today is the integration of these three aspects of sustainable development (environmental, economic and social) with different objectives and functions in human development. Through the integration of economic, social and environmental needs are allowed optimization of current welfare without jeopardizing the welfare of future generations, which means preserving social bases, economic and environment depends Development (Brundtland, 2002). The three dimensions of sustainability form (see Figure 2). Sustainability is a basic premise of sustainable development, but it is only to define an social option. We can think of the sustainable use of natural resources without the necessary conditions for quality of life now and in the future, the most desirable for all or part of the human population (Herrero, 2002). Prin urmare, trebuie reținut că dezvoltarea unei singure dimensiuni nu este suficientă pentru a realiza dezvoltarea durabilă a sistemului uman, și poate afecta în mod negativ întreg sistemul de progres sau bunăstare umană.

(Bosch et. Al., 1998) presents a series of basic principles of sustainability to be applied in any human economic activity:

a. Preservation, in the sense that resources should be used only for basic needs and in an efficient manner;

b. Preferential use of renewable resources, especially energy;

c. Using recycled materials, so as to minimize the generation of waste and reduce consumption of primary raw materials;

d. Investments designed to recover natural systems;

e. Limiting population growth;

f. Promoting public transport and use of clean alternative measures for short trips.

g. Adaptation of production (services) so be respectful with the environment.

h. Treatment integrated of environmental management issues, socio-economic, educational and cultural.

i. Promote participation and social engagement in policy formulation aimed at preserving environmental quality.
Figure 2: The three dimensions of sustainable development
Source: Retrieved and adapted from (Fullan and Puig, 1997)

**Business sustainability in the context of sustainable economic development**

Since the 90’s, the idea of sustainable development has taken off in the private sector. Although the primary responsibility of companies is to generate profits, it is recognized increasingly more that they can simultaneously contribute to social and environmental objectives. Transformation of the role of firms answers to the recent changes in society in developed countries. The main reasons explaining the growing concern of the business sector for sustainable development are:

- New worries and expectations of citizens, consumers, public power and investor in the context of globalization and industrial exchange on large scale, leading to a concern increasingly higher environmental and social criteria.
- Changing relationship between business, government and civil society gave a greater role, but also greater responsibility for the operation companies against environmental and social problems.
- In the end, the expansion and sophistication of modern information and communication allow transparency and extensive knowledge of business activities brought to the end.

More than before, the company now expects to report in a transparent way about the behavior of the three fundamental areas that can add and destroy value: economy, environment and society. Responsibility of companies in sustainable development can be expressed by the term “triple Bottom
line”. This concept was introduced by John Elkington in his famous book “Cannibals with Forks” to refer to levels of behavior on three key issues: “profit” (economic prosperity), “planet” (environmental quality), “people” (social welfare) (Elkington, 1997). Sustainability in business strategies have evolved over time (see Figure 3). After an era characterized by respect, by companies of the law, the traditional approach to solutions “end of the tube”, the concept of cleaner production (or purer) introduced by the United Nations Environment Programme (UNEP) and refers to the prevention of environmental pollution through changes in processes, products and services. Later, this concept was completed by other integrated strategies in order to contribute to sustainable development in the business world.

![Figure 3: The evolution of sustainable business strategies](image)

**EU Sustainable Development Strategy**

Emergence of the European Environment Agency report in July 1999, called the *EU average at the beginning of XXI century*, included an assessment of the situation at that time and future prospects of EU sustainable policy, reveals that any of environmental situation or short-term trends were not as expected or desired in some cases may even aggravate the situation. This is the evidence of development, not comply with EU objectives in terms of sustainable development in economic and sectoral policies (Beltran, 2002).

This report allowed the European Environment Agency (EEA) finding areas that require community action and led to the establishment of the 6th Community Environment Action Programme in Environmental Matters, “Our
future is in our hands” in terms regards Sustainable Development Strategy.

Below are five of environmental and sectoral priorities:

a) **Climate change**: energy efficiency and renewable energy.

b) **Waste and materials**: closing cycles and reducing material flows, reducing final waste. Improve productivity.

c) **Territorial package and natural resources**: maintenance, restoration of natural capital and support the economy. Maintaining functional resources.

d) **Environmental and health quality**: the environment as a basic right for a healthier life.

EU offers to the market inequities several policies and fundamental principles to guide them. For that joined environmental objectives such as the prevention and precaution, internalization of environmental costs and the use of resources, based on the paradigm of “sustainable development” (Jiménez Beltrán, 2002). Thus, in the Gothenburg Council in June 2001 was launched strategy,, sustainability “which established some important principles to be met and identified certain priorities, goals and objectives. It also announced a new direction in policy formulation, including:

a) the importance of the disconnection growth in the use of resources;

b) fair prices (internalisation);

c) extensive consultations with all stakeholders;

d) the Impact Assessment on the sustainability of all major policy proposals.

e) Council noted several objectives and general measures for future policy development, divided into four of environmental priority areas: climate change, transport, public health and natural resources (Jiménez Beltrán, 2002).

Member States, following the guidelines set by the EU, has developed the National Strategy for Sustainable Development, which seeks to promote actions and policies responsible for our common future and that it leads to a society of balanced economic growth through prudent use of natural resources and environmental conservation.

**Conclusions**

In conclusion, the concept of sustainable success is due mainly legitimacy of the idea, its legal base, namely, that human society can continue
to seek a better life and the extent and generality that formed it. The advantage of this flexibility of the concept of sustainable development is that it allows the possibility of multiple interpretations and practical approximations and therefore provides an objective applicable to the various contexts of economic, social and environmental. On the other hand, the disadvantage of the concept is so vague that it can adapt to any kind of work ethic, scale of values and political preferences, which allow you to not question the continuing growth of industrialized countries or current models natural resource management.

And yet, based on academic debate created on interpretations of sustainable development can be identified certain principles generally accepted. A vision of sustainable development very common is represented by the integrated model of three dimensions of sustainability: environmental, socio-cultural and economic.

References

A Comparative Review over the Pension Systems' Performance in Central and Eastern European Countries

Author: Luise Mladen, Senior Researcher National Scientific Research Institute for Labour and Social Protection, Romania, luisemladen@hotmail.com

Towards the late 90’s, together with overcoming the shock of transition, most countries in Central and Eastern Europe began a process of profound reform of the pension systems. The aim of these reforms was mainly ensuring the financial sustainability of the pension systems often without taking into account their primary goal: to provide adequate retirement incomes, to allow the elderly to maintain a decent living standard after retirement and to have economic independence. However, a successful pension system is not the one that involves little spending but the one achieving its primary goal while limiting the future pressures on public finances.

The economic crisis has increased the vulnerability of the pension systems. The economic recessions or slow economic growth, budget deficits and debt burdens, low employment rates have led to rising the concern about the ability of pension systems to fulfil their purpose. In this context, most Central and Eastern European countries have recently been forced to take up new changes in pensions. In our study we accomplished a comparative analysis of the pension systems’ performance based on calculating a composite indicator that includes three components: the indicator of adequacy, the financial sustainability indicator and the indicator of modernity. Each of these components is obtained by aggregating a selection of sub-indicators. The purpose of this analysis is to identify best practices for successful reform, but also to highlight potential hazards or imbalances that might face various emerging countries.

Keywords: pension systems, financial sustainability, pension adequacy, pension reforms
Introduction

The Central and Eastern European countries have inherited from the communist regime pension systems that were based largely on the pay-as-you-go model (PAYG). These pension schemes experienced a series of problems in the early years of transition because of contraction of the economic activity as a consequence of restructuring the public-owned enterprises, the reduction in number of taxpayers, the increase of the employment in the informal economy sector and high tax evasion, proving to be unsustainable in market economy conditions. In the early 90’s, employment rates fell by over 20% in Central and Eastern European countries, and the governments have chosen to meet this challenge by encouraging early retirement. In only a few years, the number of pensioners increased on average by about 20%, and in countries like Poland and Romania even by 40-60% [1]. This policy proved to be costly and many countries were forced to take further measures to reduce pension expenditures by indexing the pension to inflation, by rising the statutory retirement age or by measures of improving the collection of the contributions.

Additionally, like all other European countries, the states from Central and Eastern Europe were affected by ageing as a combined result of falling fertility rates and increasing life expectancy, by the effects of globalisation that determines the increase in international competition, by increasing external migration etc.

Towards the late 90’s, together with overcoming the shock of transition, most countries in Central and Eastern Europe began a process of profound reform that had both parametric and structural components.

Parametric reforms introduced small changes in legislation in order to improve the actuarial balance of the system, without changing the institutional framework. These reforms were focused less on ensuring an adequate pension for the beneficiaries, but more on improving the financial sustainability of the public system. Along with rising the statutory retirement age for both men and women, the reforms involved increasing the minimum contribution period, changing of the method of calculation of pension and strengthen the link between contributions and pension entitlements, tightening eligibility for disability pensions, changing the pension indexation formula etc.

Structural reforms are the ones that change the architecture of the pension system by introducing pension schemes which are based on capitalization, replacing or complementing the pure redistributive system.
Most Central and Eastern European countries have introduced a mixed pension system inspired by the multi pillar system suggested by the World Bank. This includes a public pillar based on the PAYG principle, a mandatory fully-funded second pillar and a voluntary fully-funded third pillar.

In Central and Eastern European region, the structural reform of pension systems began with the introduction of a voluntary private pension pillar III in 1994 in Hungary, the Czech Republic and Bulgaria (see table 1) being followed by the implementing of the pillar II (the one of the mandatory private pensions). Romania was the last country in the region that had adopted the multi-pillar system.

<table>
<thead>
<tr>
<th>Country</th>
<th>Pillar II Mandatory private pension</th>
<th>Pillar III Voluntary private pension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>1998</td>
<td>1994</td>
</tr>
<tr>
<td>Romania</td>
<td>2007</td>
<td>2007</td>
</tr>
<tr>
<td>Poland</td>
<td>1999</td>
<td>1999</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>-</td>
<td>1994</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2005</td>
<td>1997</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>2002</td>
<td>1994</td>
</tr>
<tr>
<td>Estonia</td>
<td>2002</td>
<td>1998</td>
</tr>
<tr>
<td>Latvia</td>
<td>2001</td>
<td>1998</td>
</tr>
<tr>
<td>Lithuania</td>
<td>2004*</td>
<td>2000</td>
</tr>
<tr>
<td>Slovenia</td>
<td>**</td>
<td>2000</td>
</tr>
</tbody>
</table>

* Lithuania has a second pillar that is optional
** exist for specific sectors

The structure of the pension systems in Central and Eastern European countries, as a result of the gradually developed extensive process of the reform, is shown in table 2.

All ten analyzed countries have reformed the public pension system by strengthening the link between received pension rights and the contributions paid to the system.

Hungary, the Czech Republic, Bulgaria, Estonia, Lithuania and Slovenia have a redistributive public system with defined benefit, while in Romania and
Slovakia operates a public system based on points. The points-based system is similar to a reformed defined benefit system, in which, the entire active life income is revaluated in connection to the average wage. Poland and Latvia have replaced the public defined benefit pension scheme with a scheme based on notional accounts which functionally mimics a defined-contribution pension scheme funded by capitalization, but still remaining a pay-as-you-go scheme. Current pension payment is made on behalf of all current contributions to the system, but the pensions are determined by scriptic gathering of contributions in notional accounts and are remunerated with notional interest (set exogenously and based on long-term average growth of GDP / capita or the salary earnings). In this way, the system has an automatic mechanism for adjusting the level of pensions calculated according to life expectancy or to other factors that threaten the financial sustainability of the system.

All analysed countries, except the Czech Republic, have introduced a second pillar with mandatory contributions, privately managed and being of defined-contribution type by taking over a part of the contributions owed to the public pension system. In Slovenia, the second pillar is mandatory only for specific sectors (the public sector, the banking sector and for occupations with high occupational risks) and optional for the rest [2]. In Latvia also, employees have to decide if they pay contributions only in the first pillar or if their contributions have to be split between the first and the second pillar.

By the introduction of mandatory private pension schemes, the long term financial sustainability of the public system is improving, but on the short and even medium term, redirecting a portion of social security contributions to pillar II is a challenge for the public system. In this context, naturally raises the question about who will bear the costs of transition to the mixed system.

Table 2: Structure of the pension systems in the analyzed countries (as was before the 2008)

<table>
<thead>
<tr>
<th>Statul</th>
<th>Pillar I</th>
<th>Pillar II</th>
<th>Pillar III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>Public, mandatory, PAYG, DB</td>
<td>Privat, mandatory, DC</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Romania</td>
<td>Public, mandatory, PAYG, Points</td>
<td>Privat, mandatory, DC</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Poland</td>
<td>Public, mandatory, PAYG, NDC</td>
<td>Privat, mandatory, DC</td>
<td>Privat, voluntary, DC</td>
</tr>
</tbody>
</table>
### Pension Systems in Central and Eastern European Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Public, mandatory, PAYG, DB</th>
<th>Privat, voluntary, DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>-</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Privat, mandatory, DC</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Privat, mandatory, DC</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Estonia</td>
<td>Privat, mandatory, DC/DB</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Latvia</td>
<td>Privat, mandatory, DC</td>
<td>Privat, voluntary, DC/DB</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Privat, optional, DC</td>
<td>Privat, voluntary, DC</td>
</tr>
<tr>
<td>Slovenia</td>
<td>-*</td>
<td>Privat, voluntary, DC/DB</td>
</tr>
</tbody>
</table>

DB – defined-benefit; DC – defined-contribution, NDC – notional defined-contribution, * Exist for specific sectors

All ten analyzed countries have introduced the voluntary contribution pension schemes (pillar III) to supplement pension rights paid from pension schemes with mandatory participation (pillar I and II).

Defined contribution pension schemes automatically adjust pension rights based on the rise of life expectancy. The capital accumulated in the accounts will be converted into an annuity after retirement. Annuities are even smaller when life expectancy is higher.

The economic crisis that started in 2008 was an important test for the reformed pension systems in Central and Eastern European countries. This revealed a number of issues of these systems that remained unsolved. One of these problems is the one related to the costs of the transition to the multi-pillar system. The funding gap resulted from pension privatization is a supplementary cost. When introducing the first wave of reforms of the pension systems in the late 90’s and the early 2000s, it was considered that the costs of transition would be easy to bear since the pension privatization was going to generate more revenues because they stimulate savings and investments that should provide support for the economic growth and formal employment.

However, the reality showed that switching to multi-pillar system is
not an easy process and the economic crisis that started in 2008 worsened the problems of transition.

One of the consequences of the crisis was a significant increase of government deficits and of the public debt. In order to improve the public finances many states imposed austerity measures. Pension systems are vulnerable to cutbacks in public spending because they are strongly dependent on the transfers from the state budget to cover their deficits. In this context, many states chose to slow or even reverse the process of privatization of pensions. Thus, the current economic crisis led to a turning point in the reform of the pension systems.

Many of the CEE countries chose to meet new challenges by raising the statutory retirement age, by changing the pension indexation formulas (switching from wage indexation to price indexation), by modifying the qualifying conditions or benefit formula, by eliminating privileged pensions paid for special groups of workers, but also by adjusting the size of the second pillar. Some countries redirected part of the contributions from the second to the first pillar and others temporary froze the scheduled increase in the second pillar contribution. Hungary is a particular case. In 2011, this country nationalized de facto its second pillar transferring the savings accumulated in the mandatory private scheme back to the first pillar [3].

In the short term, increasing revenues to the public system (by moving the second pillar contributions to the first pillar) results in improving of the financial system situation and in reducing the dependency on the subsidies from the state budget. However, in the long term, there is a negative impact on the financial sustainability of the public pension system due to increasing the future pension obligation of the state.

Further in our paper we will try to make a comparison of the performance of the reformed pension systems in CEE countries. We have to mention that the reforms legislated after December 2011 are not taken into account in our analysis.

The methodology of research

The analysis of the pension systems in Central and Eastern European countries is accomplished according to the degree of achievement of the following common objectives set at EU level regarding the pension systems:
• to provide an **adequate retirement income level** for all and the access to pensions which allow people to maintain, to a reasonable degree, their living standard after retirement, in the spirit of solidarity and fairness between and within generations;

• to ensure the **financial sustainability of public and private pension schemes**, bearing in mind the pressures on public finances and the ageing of population, and in the context of the three-pronged strategy for tackling the budgetary implications of ageing;

• to ensure the **pension systems transparency and their good adjustment to the needs and aspirations of women and men** and to the requirements of a modern society, to the demographic ageing and to structural changes.

For the analysis of the performance of the pension systems we use a composite indicator that we developed in another study [4].

We consider that a successful pension system is one that achieves its primary objectives while limiting the future pressure on public finances, being adequate, sustainable and modern. The primary objectives of a pension system are defined by Barr and Diamond [5] in relation to individuals (consumption smoothing over an individual’s lifecycle and insurance especially against longevity risk) and to governments (poverty relief and redistribution of income and wealth).

The composite indicator used for making a comparison of pension systems performance in EU countries includes the following three components:

• the adequacy indicator;

• the financial sustainability indicator;

• the modernity indicator.

Each of these components is obtained by aggregating the indicators presented in Table 3, which are given different weights.

The value of each indicator is normalized by transforming it into a score on a scale of 0 to 10 using the following formulas:

\[
(V_i - V_{\text{min}}) \times 10/(V_{\text{max}} - V_{\text{min}}) \text{ when high values show high performance or}
\]

\[
(V_{\text{max}} - V_i) \times 10/(V_{\text{max}} - V_{\text{min}}) \text{ when high values show low performance.}
\]

\(V_i\) – the value of the indicator for the country \(i\);

\(V_{\text{min}}\) – the lowest value recorded in the entire panel of selected countries;

\(V_{\text{max}}\) – the highest value recorded in the entire panel of selected countries.
Table 3: The pension systems’ performance indicator: the weighting scheme of the component indicators

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>At-risk-of-poverty rate of elderly people (65+) (1/4)</td>
<td>The adequacy indicator (2/5)</td>
<td>The pension systems performance indicator</td>
</tr>
<tr>
<td>Aggregate replacement ratios (1/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median relative income of elderly people (1/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in theoretical net replacement rate for base case between 2010 and 2050 (1/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator of current and projected public pension expenditure (1/3)</td>
<td>The financial sustainability indicator (2/5)</td>
<td></td>
</tr>
<tr>
<td>Indicator of current and projected economic old-age dependency ratio (1/3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment rate of older workers (1/3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender differences in the risk of poverty (1/3)</td>
<td>The modernity indicator (1/5)</td>
<td></td>
</tr>
<tr>
<td>Gender differences in aggregate replacement ratio (1/3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender differences in the relative income of elderly people (65+) (1/3)</td>
<td></td>
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</tr>
</tbody>
</table>

Results of the analysis

The final result obtained by aggregating all the data and the country ranking in respect to that can be observed in figure 1. Netherlands seems to have the best performing pension system, followed by Sweden. Romania is ranked 22nd out of 27. The countries with the pension systems that are performing the worst are Greece, Bulgaria and Slovenia.

In figure 2, we present the three main component indicators which come together to build the composite indicator of the pension systems’ performance for Central and Eastern European countries.

Figure 1: The composite indicator of the pension systems’ performance in 2010
Each of the pension systems of the ten countries examined shows both strengths and weaknesses. The most effective pension system is the one from Lithuania. In terms of financial sustainability the Estonian system seems to have the best performance, while the Slovenian system seems to present the greatest risk, followed by the Hungarian one. The most effective systems in poverty relief of the elderly are the pension systems from Lithuania and Hungary. However, the Hungarian system is unsustainable. The greatest risk regarding the capacity of the pension system to provide adequate benefit can be seen in Latvia and Bulgaria.

Romania, although has the second-highest at-risk-of-poverty rate for the elderly, presents high median relative income for people of 65+ and a relative high aggregate replacement rate. But we have to take into account the fact that both of these indicators are relative measures and their values are influenced by changes in the income of both the elderly (numerator) and the working age population (denominator). If the income of the working age population is low that might give the impression that the position of the elderly cohort is good.

Even if our country changed in 2010 the public pension legislation (raising the retirement ages, changing the indexation formula, reducing early
retirement, restricting disability retirement, eliminating a part of the special pensions etc.), in terms of financial sustainability the Romanian pension system seems to continue to present a big risk.

In respect to the modernity indicator the best performing countries are Hungary and Slovakia and the worst performing are Slovenia, Romania and Bulgaria.

Conclusions

The adequacy of pensions and the sustainability of the pension system are interrelated. In fact, they are “two sides of the same coin” [6]. The real challenge is to find a balance between the adequacy and the financial sustainability.

We cannot finish this paper without remarking that there is no ideal pension system that fits all countries. The optimum system differs from country to country and from one period to another.

Any pension reform should be conducted keeping in mind the fact that through the reform should be obtained an inter- and intra-generational solidarity, an adequate pension level, a modern and financially sustainable pension system. The pension reform should not be made in detrimental of the current beneficiaries. They should not be the only ones to bear the costs of transition to the multi-pillar system.

Acknowledgment

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Networks and Innovation: An Economic Model for European Regions (2002-2006)¹

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This research provides a new theoretical approach to innovation. The work also provides data processed in recent years (2002-2006) to regions of European regions, providing relevant empirical evidence on the relationship between Human Capital, Technological Capital, Innovation Capital, Network Capital and Innovation. In econometric modeling is considered especially for the regions of the European Union.

Keywords: Innovation, European Union, Networks, Regions.

Introduction

This research studies the role of Human Capital, Technological Capital, Innovation Capital and Networks Capital among the generation of innovation for each region. This is done through a general economic model composed of a basic equation that has as exogenous variables the Human Capital, Technological Capital, Innovation Capital and Networks Capital in order to explain innovation as endogenous variable.

The operation of the innovation generation process consist in that aside from the right combination of Human Capital, Technological Capital and Innovation Capital, there are other relational, cultural and institutional

¹ This research has been supported financially by the project titled “Dissemination and Networks of Knowledge in Atlantic Area”. INTERREG IV-C, European Commission.
regional factors, this is what we will call Internal and Social Networks Capital, which affects to the understanding and support of Human, Technological and Innovation Capital generates in combination with them, innovation and acts at the same time generating economic effects over the output in terms of units, over the sales and the generation of employment.

The estimation of the model adopted is done by using econometric techniques from the available data concerning the variables involved regarding the one hundred nine regions of European Union.

It also compares the estimations of the model for various definitions of Human, Technological, Innovation Capital and Networks Capital, in order to analyze its impact on innovation.

Finally factors affecting the production of Human, Technological and Internal and Social Network Capital of the generation of innovation between the European regions are analyzed in detail and conclusions are extracted from the obtained results.

**Literature Review**

The role of Human and Technological Capital in the economic growth has been a topic of growing interest and debate between economics, geographers and other social researchers. Some of the most significant researches on these issues are listed below.

At the beginning of economic theory it was thought that the natural wealth of a region or country was the main determinant factor of growth. Subsequently, the natural resources were replaced by all kind of infrastructures, mainly of transport, made by man. With the industrial revolution and the subsequent theories of Solow (1956, 1957) technological progress becomes key explanatory factor. Nowadays, after the main contributions of Lucas (1988), we tend to think that the main factor of growth is the Human Capital, understood in a fairly broad sense. By these we mean that when talking about Human Capital we should not think exclusively in education, experience and skills of workers: we tend to consider the innovative capacity and human values. Even in the line of New Institutional Economics we can think of the quality of the institutions as a cause of the economic growth. Basically these are the factors of modern growth theory, especially that which has been developing since the mid-eighties until today.

For a long time, Technology and Human Capital have been considered as the driving forces of economic growth. In this regard, Solow’s (1970) work
stands out which highlights the relevance of the effect of technological change on the economic growth.

Jacobs (1961, 1969) studies were focused on the transference of knowledge in cities. In his reasoning, cities play a crucial role in the economic development through the interaction between people and the generation of new products and new technology.

Later, Romer (1986, 1987 and 1990) establishes the connection between knowledge, human capital and economic growth through his endogenous economic growth model, arguing that investments in Human Capital create externalities and increasing returns.

The seminal endogenous regional model of Lucas (1988) shows that cities act transferring knowledge and generating powerful human externalities that increase productivity and boost the economic growth.

Also, the connection between Human Capital and regional growth is supported by a large body of empirical evidences contrasted at national and regional levels. In the same thread of thought, recent researches (Barro (1991); Glaeser et al (1995); Glaeser (1998; 1999; 2000a y 2000b); Simon (1998), Glaeser et al (2001); Rauch (1993); Young (1998); Eaton and Eckstein (1997); Black and Henderson (1998); Simon (1998); Glendon (1998); and Shapiro (2006) have empirically contrasted Lucas speculation, stressing the role of human capital and economic growth.

Berry and Glaeser’s (2005) work highlight the growing gap over the past decades in levels of human capital between regions among U.S.A.

Finally, Florida (2002a, b, c; 2005a and b; and 2006) has advocated the need to better understand the factors that generate innovation and creates a new concept of Creative Capital which is what enables territories to attract talent. He concludes that the Creative Capital operates more as a dynamic flow or a static stock.

This research argues that what are really relevant are the collaborative relationships that exist between universities, private companies and public administration. The university provides a grounding of Human Capital, scientifically trained, that adequately related to private enterprise can generate open innovation. However, it is still necessary the relationship between private companies and public administration to implement the discovery and become a reality. The link and liaison between the Human Capital and Technological is the Networks Capital, and that link is collaborative and appropriate when done with creativity.
The Model

Towards a better understanding of the questions raised, we created a general model of generation of innovation for the European regions, in order to isolate and analyze the independent effects of Human Capital, Technology Capital, Innovation Capital, Networks Capital (Internal Networks Capital and Social Networks Capital) with the variable innovation.

A schematic representation of the general theoretical model of innovation is shown in Figure 1. The arrows identify the hypothetical structure of relationships between key variables.

Figure 1: Structure of the relationships between Human Capital, Technological Capital Innovation Capital and Networks Capital with Innovation

Next, we will proceed to estimate the contribution of Human Capital, Technological Capital, Innovation Capital, and Internal and Social Networks Capital. We will use an aggregate production function which contains as a variable to explain the innovation or throughput and as explanatory variables four defined factors of production such as Human Capital, Technological Capital, Innovation Capital and Networks Capital. Such function will be of type:

\[ f(y_1, y_2, y_3, y_4) = I = \hat{a}_1 y_1 + \hat{a}_2 y_2 + \hat{a}_3 y_3 + \hat{a}_4 y_4; (\hat{a} > 0, \hat{a}_i > 0) \]  \hspace{1cm} (1)

In the previous equation (i) innovation is represented by I, and it is explained by four production factors as the effect of Human Capital, represented by \( y_1 \), the investment in Technological Capital represented by \( y_2 \), the investment in Networks Capital which we will call the \( y_3 \), and finally...
investment in Innovation Capital which we will call $y_4$. The expression (1) will take now logarithms and obtaining the following specification:

$$\text{Log } I_{i,t} = y_{1,0} + \alpha_{1,1} \text{Log } y_{1,t} + \alpha_{1,2} \text{Log } y_{2,t} + \alpha_{1,3} \text{Log } y_{3,t} +$$

$$+ \alpha_{1,4} \text{Log } y_{4,t} + \epsilon_1 ; \quad (2)$$

Where $\epsilon_1$ represent the mistakes of the econometric estimation, while the rest of variables have been previously defined. Table 5 shows the results of the estimation of the equation (2).

The model adopted also enables the stimulation and analyze of the effects of internal (in house) and social relationships which are influenced by various institutional and regional cultural factors – for example, the university, the private companies and the empathy and support of the public administration, on the geographic distribution of innovation.

We have included the Innovation Index from Eurostat, this index is an indicator based on the number of patents registered and applied by the EPO (European Patent Office) per million of population with source Eurostat and Regional Innovation Scoreboard.

This research will use a set of econometric and statistical techniques, carrying out multivariate regressions of Human Capital, Technological Capital, Innovation Capital, Internal and Social Networks Capital and Innovation, in terms of number of patents in order to study the nature of the causal relations between the variables in the model of stages described above.

The Data of European Regions

The European Commission in order to track innovation in European regions has made a recent report (2009) which includes lots of indicators for the years 2004 and 2006 made with the same definitions and methodology. We take the data available from 2002 to 2006. The European regions are in alphabetical order as follows: Abruzzo, Alentejo, Algarve, Andalucía, Aquitaine, Aragón, Attiki, Auvergne, Basilicata, Basse-Normandie, Bayern, Berlin, Border-Midlend-and-Western, Brandenburg, Bremen, Bretagne, Bruxelles, Burgenland, Calabria, Campania, Canarias, Cantabria, Castilla-La-Mancha, Castilla-León, Cataluña, Centre, Centro-(P), Ceuta, Comunidad-Valenciana, Corse, Drenthe, Dykti-Ellada, Dykity-Makedonia, Eastern, East-Midlands,

Variables used in this model are the following:

= Dependent Variable: Innovation (Number of Patents)

The dependent variable used in the model to approximate of innovation, index of the number of EPO patents per million population with source in Regional Innovation Scoreboard.

Independent variables are the following:

= Indexes of Human Capital

It was considered in order to represent the Human Capital, as a traditional or conventional indicator of the Human Capital, measured as the average of the population with tertiary education per 100 population aged between 25 and 64 years with source Eurostat and other index of the participation in lige-long learning per 100 population aged between 25 and 64 years with source Eurostat and Regional Innovation Scoreboard.

= Indexes of Technological Capital

It includes a technology variable to account the independent effects of the technology in the regional innovation. The average of the indicators used
to obtain the Technological Capital index: share of GDP in public expenditure on R&D source Eurostat and share of GDP in private expenditure on R&D source Eurostat.

= Index of Innovation Capital

It includes a variable to account the independent effects of the investment in innovation. The indicator used to obtain the Innovation Capital index is: percentage of total turnover in innovation expenditures (Non-R&D innovation expenditures) with source in Regional Innovation Scoreboard.

= Index of Networks Capital

Another set of explanatory variables correspond to the measures of Networks Capital, understood not only as reducing barriers for the entry of Human Capital, but the facilitation and collaborative support. Networks Capital among the regions and the concentration of these opening factors create an economic, social and cultural environment more open to innovation. For this variable a synthetic index of Networks Capital was used from the following two indicators: Sum of SMEs with intern innovation activities, with cooperation between workers and managers, in-house, measure by percentage of all SMEs (We will call Internal Networks Capital) and Sum of SMEs with extern collaboration with other companies, co-operating with others measure by percentage of all SMEs (We will call Social Networks Capital) with source Eurostat. All the variables has been normalized from 1 to 10. In Table 1 shows the variables and their descriptive statics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>St. dev</th>
<th>Max</th>
<th>Min</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Capital</td>
<td>5.164</td>
<td>2.073</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
<tr>
<td>Tertiary Education</td>
<td>5.223</td>
<td>1.858</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
<tr>
<td>Lifelong Learning</td>
<td>5.105</td>
<td>2.289</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
<tr>
<td>Technological Capital</td>
<td>4.324</td>
<td>2.073</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
<tr>
<td>Public R&amp;D</td>
<td>4.356</td>
<td>2.234</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
<tr>
<td>Business R&amp;D</td>
<td>4.292</td>
<td>2.234</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
</tbody>
</table>
Networks and Innovation: An Economic Model for European Regions (2002-2006)

<table>
<thead>
<tr>
<th>Networks Capital</th>
<th>5.090</th>
<th>1.997</th>
<th>10</th>
<th>1</th>
<th>378</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Networks Capital</td>
<td>5.709</td>
<td>2.263</td>
<td>10</td>
<td>1</td>
<td>378</td>
</tr>
<tr>
<td>Social Networks Capital</td>
<td>4.471</td>
<td>1.731</td>
<td>10</td>
<td>1</td>
<td>378</td>
</tr>
<tr>
<td>Innovation Capital</td>
<td>5.142</td>
<td>1.846</td>
<td>10</td>
<td>1</td>
<td>198</td>
</tr>
<tr>
<td>Innovation (number of patents)</td>
<td>3.572</td>
<td>2.271</td>
<td>10</td>
<td>1</td>
<td>545</td>
</tr>
</tbody>
</table>

Source: Own elaboration.

Results to regions of European Union

Next we will proceed to estimate the equation (2) proposed in the model

Table 2: Results of the estimations of Equation (2)

<table>
<thead>
<tr>
<th></th>
<th>Ln (Innovation)</th>
<th>Ln (Innovation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-3.383 (-8.592)</td>
<td>-3.121 (-8.925)</td>
</tr>
<tr>
<td>Ln (Human Capital)</td>
<td>0.469 (2.906)</td>
<td>0.486 (3.228)</td>
</tr>
<tr>
<td>Ln (Tech. Capital)</td>
<td>1.034 (26.47)</td>
<td>1.031 (26.43)</td>
</tr>
<tr>
<td>Ln (Networks Capital)</td>
<td>0.432 (3.632)</td>
<td>-</td>
</tr>
<tr>
<td>Ln (Internal Networks Capital)</td>
<td>-</td>
<td>0.187 (1.862)</td>
</tr>
<tr>
<td>Ln (Social Networks Capital)</td>
<td>-</td>
<td>0.281 (2.334)</td>
</tr>
<tr>
<td>Ln (Innovation Capital)</td>
<td>0.191 (2.906)</td>
<td>0.176 (2.541)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>198</td>
<td>198</td>
</tr>
<tr>
<td>R2-Ajusted</td>
<td>0.932</td>
<td>0.932</td>
</tr>
<tr>
<td>Hausman</td>
<td>18.291</td>
<td>17.541</td>
</tr>
</tbody>
</table>

Source: Own elaborations. European Regions are others regions have been excluded due to missing data.
Some regions were excluded because there were no data available of some variables as seen in previous section. The estimates were made with panel data techniques with fixed effects. The results of the estimation of the equation (2) with panel data technical from the model adopted, relating to the Innovation (Number of Patents), are shown in Table 2.

**From these results the following conclusions can be drawn:**

A) In this case, as in the rest of the literature on Innovation, the variable that best approximates innovation is the number of patents.

B) The elasticity of the Human Capital and Innovation is significant and positive (0.469-0.486).

C) The elasticity of Technological Capital and Innovation is significant and positive (1.031-1.034).

D) The elasticity of Networks Capital and innovation is significant and positive (0.432).

E) The elasticity of Social Networks Capital and innovation is significant and positive (0.281).

F) The elasticity of Internal Networks Capital and innovation is significant and positive (0.187).

G) The elasticity of Innovation Capital (expenditures in innovation) and innovation is significant and positive (0.176-0.191).

H) Innovation is explained reasonably well by the four key variables – Human Capital, Technological Capital, Innovation Capital (expenditures in innovation), and Networks Capital (Internal and Social Networks Capital).

**Conclusions**

This research proposes the existence of a new drive of innovation and with it not only of the sales based on the accumulation of knowledge but in the collaborative relations between universities, companies and public administration.

This research analyzes the causes of innovation which are empirically contrasted for the case in all the regions of the European Union with availability of dates.

The main conclusions of the modeling performed are as follows:

A) With our database of the European area regions we have found
empirical evidences that the Human Capital.

B) Human Capital has a direct effect over the Innovation (Number of patents). Human Capital operates as a crucial intermediate variable in the process of innovation which connects the factors in house and outside of the enterprises with Networks.

C) Technological Capital or the technological platform has in this case, as in the traditional literature, an important role in generating innovation.

D) It is surprising the high explanatory power of the news variables: Internal Network Capital and Social Network Capital, defined here. It seems that collaborative relations between universities, private companies and public administrations, this is, the Internal Networks Capital and Social Networks Capital, are significantly associated with the generation of Innovation.

The analysis shows that the Networks Capital have positive and relevant role in the production of Technological Capital and Innovation. The Social Networks made collaborative relations are outside the market; however, they provide the greasing between the innovation as an idea and its practical implementation. Certain regional conditions of relational type seem to play a significant role and encourage the creation of an environment or habitat that can link the Human Capital with the Technological Capital and generate innovation. The three factors of Human, Technological and Networks Capital do not operate in competition with each other, but they tend to act playing complementary roles in the process of generating innovation.

References


Can Social Identity Theory Addresses the Ethnocentric Tendencies of Consumers?

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This paper investigates two issues of consumer psychology. First part of the paper assesses the applicability of ‘consumer ethnocentric tendencies scale (CETSCALE)’ for a developing country Bangladesh to challenge the orthodox belief that consumer ethnocentrism is a phenomenon of developed nations only. With statistically significant results, the study shows that 13 out of 17 items of original CETSCALE are applicable for Bangladesh which validates that CETSCALE can be a research instrument for developing nations.

In the second part, based on the modified CETSCALE items, this paper investigates the applicability of ‘social identity theory’ in addressing ethnocentric tendencies of different socio-demographic groups of consumers in Bangladesh. Results show that even if all 13 items of modified CETSCALE were supported by the surveyed population as a whole, the opinions on the scale items differ when the consumers are segregated into smaller social identities. And this deviation is due to their ‘in-group’ interests which supports the applicability of the social identity theory in the present context. The methodology is based on 788 samples collected from 22 districts of Bangladesh.

Keywords: Consumer ethnocentrism, social identity, multidimensional scaling, Bangladesh.

Introduction

This paper assesses the employability of ‘social identity theory’ [1] in addressing the ethnocentric tendencies of different socio-economic-demographic groups of consumers. In doing so, we will test whether a large
population who as a whole agree on certain ethnocentric issues become hostile to each other regarding the same ethnocentric aspects when they are put into different social identities.

Throughout the life-cycle, consumers become aware about different socio-demographic groups that they belong to and this psychology has a significant influence in the purchasing behavior of the consumers. It is believed that consumers are usually attracted to those products and brands that are linked to their social identity [2]. As the social identity-based preferences are often reflected in the buying behavior of the consumers, marketers usually position their brands to better reflect social-identity features of the consumers. This positioning task becomes harder for the companies who operate globally and face an additional threat of ‘ethnocentrism’ which shifts social identities to a ‘national identity’ and thus affect purchasing decisions. Because even though some consumers prefer to buy foreign-made products and view them as symbols of their social status [3], many prefer to consume domestic products with an adverse attitude towards foreign or imported products as a belief that such goods are of inferior quality [4], the consumer has negative attitude towards a particular country [5] or due to patriotic attitudes [6]. In this paper we will try to explore whether any significant differences in attitude exist among consumers towards buying foreign-made products when they are considered as a single group as national identity (such as all are Bangladeshi) and when the same population is grouped into different social identities (such as male or female, students or job holders or businessmen, with different educational qualifications etc.). To address this query, we will apply the items of Consumer Ethnocentric Tendencies Scale (CETSCALE) [6] through a large set of data collected from a developing nation Bangladesh.

At the onset, it needs to be clarified, why Bangladesh? Bangladesh experienced large-scale trade liberalization in the early 1990s, which was considered by some as “too fast” compared to other similar countries in the world. An extensive study by [7] reports that due to the liberalization, reduction in the rate of average custom duties had been more in the case of final consumer goods than that of capital, intermediate and primary goods. For instance, the average custom duty for final consumer goods reduced to 10.68% in 2003-04 from 47.3% in 1990-91 (almost 4.5 times), whereas the rates for capital and intermediary goods reduced to 7.42% (only 2.5 times) and 15.12% (only 1.6 times) respectively in 2003-04 from 18.7% and 24.1% in 1990-91. As a developing country, such openness has had significant influence in the purchasing behavior of the Bangladeshi people. In addition, Bangladesh
is surrounded by India - the fifth largest economy in the world - from where a considerable quantity of goods is smuggled into Bangladesh - free of duty or tax - at a cheaper price [8] and this also has a major impact on the buying decisions of the local consumers.

But to study the ethnocentric consuming behavior of different social identities of Bangladesh through CETSCALE, it is also important to assess whether the CETSCALE is applicable for a developing country like Bangladesh as it is always believed that consumer ethnocentrism is a phenomenon of developed world only. In fact, there is negligence in the literature in testing the applicability of CETSCALE for developing nations. There are only two studies available on developing countries (only in Africa) namely, Ghana [9] and Nigeria [10]. However, in Bangladesh, the South Asian developing country with the fastest record of trade liberalization, there is no research on validation of the CETSCALE. We believe such study will not only add value to the existing literature by demonstrating that the CETSCALE is no longer a phenomenon for developed nations only, but will also address the status of social identities of the consumers towards foreign-made goods. Thus our study has two clear and sequentially set objectives:

a) Supporting objective: To assess the reliability and applicability of unidimensional 17-item CETSCALE in Bangladesh and making modification if required.

b) Main objective: To assess the differences in ethnocentric behavior of different social identities in Bangladesh to test whether ‘the social identity theory’ can address consumer ethnocentrism or not.

For those less familiar with social identity theory and CETSCALE, we begin with a brief review of the concepts in the next two sections. Then we will testify the applicability of 17-item CETSCALE for Bangladesh and will do the necessary modification if required followed by testing the applicability of social identity theory based on the retained CETSCALE items.

Social identity theory

Social Identity Theory (SIT) was developed by Tajfel and Turner [1] to investigate the psychological basis of intergroup discrimination. In their study, authors tried to identify the conditions for which members of one group discriminate in favor of their ‘in-group’ and against other ‘out-groups’. The social identity is defined as “that part of an individual's self-concept which derives from his knowledge of his membership in a social group (or
groups) together with the value and emotional significance attached to that membership” [1 p.225]. In SIT, a person does not have a ‘personal self’ rather he/she is motivated by what defines ‘us’ to internalize a group membership. And for that reason, different social context may influence an individual to think, feel and act on the basis of his/her ‘social’ or ‘national’ identity. SIT asserts that group membership creates interests to maximize in favor of ‘in-group’. [1] suggested three variables that contribute to the ‘in-group’ favoritism: a) the extent to which individuals identify with an in-group to internalize that group membership as an aspect of their self-concept (for instance, ‘I am a student’), b) the extent to which the current circumstance (such as level of ethnocentrism among different social identities) provides ground for comparison between groups and c) the perceived relevance of the comparison group (such as based on occupations), which itself will be shaped by the relative and absolute status of the in-group.

The theory also states that apart from ‘own-self’, a person may belong to multiple ‘social identities’ and the person’s behavior is shaped by his current context of the identity. The fundamental premise underlying this framework is that although a consumer’s sense of self can be developed from a wide range of possible social identities (such as male and low earner and living in a border district), only a subset of them will influence the consumer in any given situation. For instance, a low earning person in the border area may be less ethnocentric because in that particular area foreign-made goods are much cheaper than domestic products. For this person, the ethnocentric behavior is influenced not by gender or occupation rather by the location advantage where he/she can get the price incentive. It can be assumed that the same person may prefer to buy domestic products if he/she is moved to a non-border districts where foreign-made goods are more expensive due to additional import duties. In this context, it is hypothesized that most respondents have a preference for domestic products when price is equal, but that as the price differential increases, those with lower levels of ‘national identity’ (or less ethnocentric) will be more likely to choose products based on criteria other than the country of origin, such as price, their income, quality etc. This necessarily means that any person who belongs to a social identity will always try to maximize the interest of ‘in-group’ even if by doing so they reduced their own individual economic gain.

There are experimental supports in favor of SIT. For example, Tajfel’s series of studies which tested to see if prejudice and discrimination could be created between people when they are placed into distinctive groups. He found
that the simple act of grouping was enough to induce prejudice.

**Consumer ethnocentric tendencies scale (CETSCALE)***

Based on the sociological theme of ethnocentrism forwarded by [11], Shimp and Sharma (1987) propose the term “consumer ethnocentrism” to assess the perception of the consumers towards the appropriateness of buying foreign-made products. They also define consumer ethnocentrism as the morality of purchasing foreign-made goods with the notion that buying foreign-made goods hurts local producer and economy, creates job-loss and is unpatriotic. In contrast, non-ethnocentric consumers evaluate the products based on their own selection criteria (such as quality, price, brand name, etc.) irrespective of where the product has been produced. By utilizing the data collected from four major cities (Detroit, Denver, Los Angeles and Carolinas) of the USA, Shimp and Sharma (1987) proposed a unidimensional 17-item (refer to Table A1 in appendix), seven-point psychometrically rigorous scale (CETSCALE) that could capture the ethnocentric behavior of the consumers.

Numerous studies have been conducted in assessing the validity of CETSCALE around the globe [12] made an extensive analysis exploring the consequences of consumer ethnocentrism based on 37 previous studies conducted on advanced nations such as Australia, Austria, Britain, Canada, China, Czech Republic, France, Hong Kong, Japan, Mexico, New Zealand, Russia, Poland, Turkey and the U.S. However, his results on the applicability of CETSCALE were mixed for different countries [13] in their study provided literature on the findings of CETSCALE validation in several developed nations. Results from the USA, Russia, Spain, France, Japan and West Germany supported the unidimensionality of the scale. On the other hand, studies by [15, 16] and [9] have found the fit results acceptable even though in later studies unidimensionality was found to be validated for Canada but not for Russia. Studies by [14] on India, Teo [13] on Malaysia, and [15] on Netherlands found the CETSCALE to be multidimensional. A study by [9] on Ghana found the 17-items reliable but not unidimensional.

Some studies on the countries of major macroeconomic and political changes have found mixed results on the validity and unidimensionality of the CETSCALE [16]. Empirical studies have shown the nature of the products influencing the consumer ethnocentrism, such as level of product involvement, perceived product necessity, and the extent to which the foreign-made product is a threat to personal or national welfare [15, 16].
There are studies on CETSCALE on few Asian countries such as China [17], Japan [18], Malaysia [13] and South Korea [6]. However, as mentioned earlier there is no study available in analyzing the applicability of CETSCALE in South Asian developing countries. There is only one study available on a South Asian country – India – which is not a developing one [14].

Methodology

For the CETSCALE validation and applicability testing through social identity theory, we used the original 17 items proposed by [6]. These 17-items are shown in Table-A1 in the Appendix. As we conducted the study in Bangladesh, a Bengali (local language) version of the questionnaire consisting of the 17 items was developed from the original English version and tested for comparability iteratively. The response format was a 7-point Likert-type scale, where 7 represents “strongly agree” and 1 “strongly disagree”.

To make the data more representative of the whole country, 22 out of 64 districts were surveyed. Data were collected randomly from men and women of three groups namely, students (from both public and private institutions), job-holders (both public and private), and businessmen and from people living in border and non-border districts of Bangladesh. A total of 800 samples were gathered and from that, 788 responses were found to be appropriate (no missing data) for the study. A summary of the samples collected is displayed in Table-1. Preliminary results of the internal reliability of the scale items (column 3 of Table-1) show that as a whole the coefficient alpha is 0.797, and for individual sub-groups the reliability ranges from 0.781 to 0.828.

<table>
<thead>
<tr>
<th>Social identity</th>
<th>N (%)</th>
<th>Coefficient Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Based on Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>450 (57)</td>
<td>0.788</td>
</tr>
<tr>
<td>Female</td>
<td>338 (43)</td>
<td>0.794</td>
</tr>
<tr>
<td><strong>Based on occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>317 (40.22)</td>
<td>0.782</td>
</tr>
<tr>
<td>Job-holders</td>
<td>234 (29.69)</td>
<td>0.765</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.828</td>
</tr>
</tbody>
</table>
Before beginning further statistical purification, we conducted a measure of sample adequacy (MSA) test through Kaiser-Mayer-Olkin (KMO) statistics to check the appropriateness of the data. The KMO for the 17 items was reported to be 0.832 which satisfied the requirement.

**Exploring the first objective**

**Testing the applicability of a unidimensional 17-item CETSCALE in Bangladesh**

The 17-item unidimensional CETSCALE was initially subjected to confirmatory factor analysis (CFA). At the outset, the critical ratio (t-values) for each item was found to be greater than 1.96 which shows the significance of the 17-items. In the next stage, an administrative decision rule was specified that items with loading less than 0.50 (for a large sample 0.40 is acceptable) were unreliable and should therefore be eliminated from the scale. Our CFA results show four items (items 2, 3, 10 and 12) with loading values less than 0.40 (see Table 2 column 2 for details). In addition, the goodness-of-fit index (GOF) was reviewed to check the fit of the 17-item CETSCALE with the four low-loaded items. The result of the root mean square residual (RMR), which represents the average residual value, was found to be high (0.235) (see the preferred values in column 2 of Table 3); Goodness of Fit Index (GFI) and Adjusted GFI were 0.887 and 0.855 respectively; Confirmatory Fit Index (CFI) was reported to be 0.706 for the CETSCALE and Root Mean Square Error of Approximation (RMSEA) was 0.085 (see Table 3 for details). All these GOF indices values prove that the 17-item unidimension

1 The acceptable range of MSA is above 0.50 [19].
2 According to [19], 0.30 is a suggested factor loading if the sample size is 350 or above. However, using 0.50 as the minimum loading value for item acceptance is an indication of better fit.
Can Social Identity Theory Addresses the Ethnocentric Tendencies of Consumers?

Table 2: Comparative study of loading values in different stages of CFA for CETSCALE al CETSCALE is a bad fit for Bangladesh.

<table>
<thead>
<tr>
<th>Items</th>
<th>Loading with 17-items</th>
<th>Loading with 13-items</th>
<th>Loading values in modified CETSCALE with 14-items and 5 dimensions/factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 dimension</td>
<td>1 dimension</td>
<td>Factor -1</td>
</tr>
<tr>
<td>Item-1</td>
<td>0.459</td>
<td>0.463 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-2</td>
<td>0.175</td>
<td>Dropped</td>
<td></td>
</tr>
<tr>
<td>Item-3</td>
<td>0.251</td>
<td>Dropped</td>
<td></td>
</tr>
<tr>
<td>Item-4</td>
<td>0.522</td>
<td>0.693 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-5</td>
<td>0.469</td>
<td>0.702 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-6</td>
<td>0.45</td>
<td>0.553 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-7</td>
<td>0.628</td>
<td>0.630 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-8</td>
<td>0.516</td>
<td>0.628 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-9</td>
<td>0.521</td>
<td>Dropped in the first stage of EFA</td>
<td></td>
</tr>
<tr>
<td>Item-10</td>
<td>0.338</td>
<td>Dropped in the first stage of CFA</td>
<td></td>
</tr>
<tr>
<td>Item-11</td>
<td>0.423</td>
<td>0.698 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-12</td>
<td>0.314</td>
<td>Dropped</td>
<td></td>
</tr>
<tr>
<td>Item-13</td>
<td>0.475</td>
<td>0.814 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-14</td>
<td>0.478</td>
<td>0.659 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-15</td>
<td>0.458</td>
<td>0.617 (+)</td>
<td></td>
</tr>
<tr>
<td>Item-16</td>
<td>0.442</td>
<td>Dropped in the first stage of CFA</td>
<td></td>
</tr>
<tr>
<td>Item-17</td>
<td>0.46</td>
<td>0.621 (+)</td>
<td></td>
</tr>
</tbody>
</table>

Note: (+) means value increased, (-) means value decreased and (+-) is for unchanged values.

Based on the loading value and modification index 3(MI), it was decided at this stage to drop four items (items 2, 3, 10 and 12) and to re-run the CFA with the remaining 13 items under one factor. The results of CFA on the 13-item CETSCALE show that loading values for 6 items declined (see Table 2, columns 2 and 3) with higher RMR (0.252) compared to the previous study. GFI, AGFI, CFI and RMSEA were found to be 0.909, 0.872, 0.773 and 0.091 respectively. In addition HOELTER values are 136 and 152, which are much lower than the preferred value of 200. Based on the revised loading values,

3 It was observed that items 2, 3 and 10 have high loading values (greater than 25) with several other items and their error terms
higher RMR and RMSEA values with low (compared to preferred values) GOF indices, it can be seen that this 13-item CETSCALE requires further refinement. However, before any further refinement is done, we decided to check the validity of the unidimensionality feature of the CETSCALE, which may created significantly low loading values for several items even after refinement. As shown by [19], the loading value of an item can be significantly low if the item is grouped wrongly under a non-correlated factor. However, one conclusion that can be derived from this analysis is that all 17-item of the CETSCALE is not applicable for Bangladesh.

Table 3: Comparative study of GOF values in different stages of CETSCALE refinement

<table>
<thead>
<tr>
<th>GOF index</th>
<th>Preferred value</th>
<th>17 item scale with Uni-dimension</th>
<th>13-item scale (Uni-dimension)</th>
<th>14-item scale with 5-dimensions</th>
<th>Finalized CETSCALE (13 items &amp; 5 dimension)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMR</td>
<td>&lt; 0.05</td>
<td>0.235</td>
<td>0.252</td>
<td>0.089</td>
<td>0.053</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0.90</td>
<td>0.887</td>
<td>0.909</td>
<td>0.951</td>
<td>0.977</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0.90</td>
<td>0.855</td>
<td>0.872</td>
<td>0.922</td>
<td>0.955</td>
</tr>
<tr>
<td>PGFI</td>
<td>&gt; 0.50</td>
<td>0.690</td>
<td>0.649</td>
<td>0.612</td>
<td>0.670</td>
</tr>
<tr>
<td>CFI</td>
<td>Close to 0.95</td>
<td>0.706</td>
<td>0.773</td>
<td>0.882</td>
<td>0.954</td>
</tr>
<tr>
<td>NFI</td>
<td>&gt; 0.90</td>
<td>0.674</td>
<td>0.749</td>
<td>0.854</td>
<td>0.930</td>
</tr>
<tr>
<td>IFI</td>
<td>&gt; 0.90</td>
<td>0.708</td>
<td>0.775</td>
<td>0.883</td>
<td>0.955</td>
</tr>
<tr>
<td>TLI</td>
<td>&gt; 0.80</td>
<td>0.664</td>
<td>0.728</td>
<td>0.834</td>
<td>0.924</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; or equal 0.05</td>
<td>0.085</td>
<td>0.091</td>
<td>0.065</td>
<td>0.046</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>&gt; 0.50</td>
<td>0.000</td>
<td>0.000</td>
<td>0.001</td>
<td>0.762</td>
</tr>
<tr>
<td>AIC</td>
<td>Lower than saturated model</td>
<td>869.802</td>
<td>Higher than saturated</td>
<td>543.854</td>
<td>Higher than saturated</td>
</tr>
<tr>
<td>ECVI</td>
<td>Lower than saturated model</td>
<td>1.105</td>
<td>Higher than saturated</td>
<td>0.692</td>
<td>Higher than saturated</td>
</tr>
<tr>
<td>HOELTER</td>
<td>&gt; 200</td>
<td>143 &amp; 155</td>
<td>136 &amp; 152</td>
<td>236 &amp; 263</td>
<td>408 &amp; 461</td>
</tr>
<tr>
<td>Chi-square</td>
<td>Smaller the better</td>
<td>801.802</td>
<td>491.854</td>
<td>283.37</td>
<td>123.700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total fit</th>
<th>Bad fit</th>
<th>Nominal Improvement but bad fit</th>
<th>Major improvement</th>
<th>Best fit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

64
Modification of the CETSCALE for Bangladesh

As our main intention was to reduce many variables to a more significant number, we used both EFA and CFA with a moderately *strict* decision rule of deleting items having cross-loading or a loading of less than 0.50 on any factor. The results show that only one item (item 9 ‘It is always best to purchase Bangladeshi products’) has a loading value less than 0.50 (0.463), with all other items satisfying the decision rules. As the communality values of the other 16 items were both high and significant, we accepted them as scale items. The results of this study also show that the eigenvalue dropped below 1 (*Kaiser Criterion*) after incorporating five dimensions instead of the hypothesized one dimension, and thus the remaining 16 items could be grouped into five dimensions. More importantly, it was observed that the loading value of each item had increased significantly (all greater than 0.65 compared to values shown in columns 2 and 3 of Table 2) when grouped in five dimensions. The total variance explained was found to be as high as 63.58. At this stage we decided to drop item 9 (‘It is always best to purchase Bangladeshi products’) from further study. It seems that it was necessary to drop this item due to the term ‘always’, because Bangladesh is currently not producing many consumer (such as computer peripherals) and capital goods (such as machinery and home appliances), thus the consumers often have no option other than to buy foreign-made products.

After dropping item 9 and re-running the factor analysis with the remaining 16 items, there were found to be no cross-loaded items, with all items have a loading value of more than 0.65, therefore we decided to keep all 16 items and five dimensions for the next stage of CFA.

The results of the first stage CFA show that two items (items 10 and 16) have loading values less than 0.50, with another item (item 1) having a marginally significant loading value (0.499). However, at this stage, the GOF indices were found to be much below than the preferred values. For instance, *chi-square* was as high as 456.23 with RMR, GFI, AGFI, CFI and RMSEA values being 0.189, 0.934, 0.905, 0.827 and 0.070 respectively. Considering the deletion rule, it was decided to drop items 10 and 16 at this stage of CFA. Deletion of items 10 and 16 (supporting import if the product is not produced locally) necessarily depicts that Bangladeshi consumers are willing to buy foreign-made products only when the goods are necessary and not produced locally. Examples of such products are food grains (such as wheat) and life-saving medicines (such as vaccinations). Loading values of 14-item modified

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4 Similar rules were followed in the marketing literature by [6] and in the research methodology used by [19].
5 For item 10 and 16, loading values are 0.417 and 0.430 respectively.
CETSCALE and uni-dimensional 17 and 13-item CETSCALE can be seen and compared in Table-2.

CFA was repeated until we found all items with satisfactory loading values and with GOF indices above the preferred values. During this process item 1 was dropped due to a low loading of 0.463 (refer to Table-2). Deletion of item 1 (‘Bangladeshi people should always buy Bangladeshi-made products instead of imports’) further signals that Bangladeshi people do not want to stop full imports unless all consumer goods are produced according to the needs of the people. Bangladeshi consumers believe that there will be more competition in the consumer goods market if foreign-made products are available, which in turn will reduce the high rate of inflation in the stated market and therefore a better standard of living.

CFA on the remaining 13 items with 5 dimensions shows that all items now have loading values above the reference value of 0.50 (see Table 4) and for most items loading values have increased after dropping item-1 (compare between Table-2 and 4). In addition, the GOF indices improved significantly with this modification (see column 6 of Table 3). Notable improvements are, RMSEA value (0.046) dropped below 0.05 with a highly significant PCLOSE value of 0.762. Moreover, as the reliability of the modified CETSCALE was found to be 0.892, which guarantees significant improvement of the scale, we propose this 13-item multidimensional (5-dimensions) scale as the modified CETSCALE for Bangladesh (refer to Table 4). Table 4 confirms that 13 out of 17 items of the original CETSCALE are applicable for Bangladesh and the final column of Table-4 further depicts that in most cases loading values for Bangladeshi CETSCALE items are much higher than that of original CETSCALE. It can thus be arguably concluded that concept of consumer ethnocentrism (as defined by CETSCALE) is applicable for developing countries such as Bangladesh.

Naming the dimension: As can be seen from a brief review of the items in the first dimension (Table 4), they are all related in some way to the patriotism or nationalism of the consumers, therefore we named this dimension the ‘Nationalistic perception’. In a similar fashion, items belonging to the second dimension reflect consumers’ belief in the likelihood of Bangladesh to be hurt through the purchase of foreign-made products, and thus this dimension is titled ‘Threat perception’. The same procedure was followed while naming other dimensions of the modified CETSCALE.

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6 We also found the convergent, discriminant and nomological validities in favour of modified CETSCALE. Those results are not given here. However, interested readers are requested to contact the corresponding author for details.
Can Social Identity Theory Addresses the Ethnocentric Tendencies of Consumers?

<table>
<thead>
<tr>
<th>Item number&lt;sub&gt;(a)&lt;/sub&gt;</th>
<th>Scale item</th>
<th>Nationalistic perception</th>
<th>Threat perception</th>
<th>Hostility perception</th>
<th>Rationality</th>
<th>Morality</th>
<th>Loading in the Original CETSCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I4</td>
<td>Bangladeshi products, first, last and foremost</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
</tr>
<tr>
<td>I5</td>
<td>Purchasing foreign-made products is un-Bangladeshi</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.64</td>
</tr>
<tr>
<td>I7</td>
<td>A real Bangladeshi should always buy Bangladeshi-made products</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td>I6</td>
<td>It is not right to purchase foreign products, because it puts Bangladeshis out of jobs</td>
<td>0.60</td>
<td></td>
<td></td>
<td></td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>I8</td>
<td>We should purchase products manufactured in Bangladesh instead of letting other countries get rich off us</td>
<td>0.63</td>
<td></td>
<td></td>
<td></td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>I11</td>
<td>Bangladeshis should not buy foreign products, because this hurts Bangladeshi businesses and causes unemployment</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>I14</td>
<td>Foreigners should not be allowed to sell their products in our markets</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>I15</td>
<td>Foreign products should be taxed heavily to reduce their entry into Bangladesh</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>I17</td>
<td>Bangladeshi consumers who purchase products made in other countries are responsible for putting their fellow Bangladeshis out of work</td>
<td>0.68</td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>I2</td>
<td>Only those products that are unavailable in Bangladesh should be imported</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
<td>0.63</td>
<td></td>
</tr>
<tr>
<td>I3</td>
<td>Buy Bangladeshi-made products. Keep Bangladesh working</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>I12</td>
<td>Curbs should be put on all imports</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>I13</td>
<td>It may cost me in the long-run, but I prefer to support Bangladeshi products</td>
<td>0.81</td>
<td></td>
<td></td>
<td></td>
<td>0.55</td>
<td></td>
</tr>
</tbody>
</table>

(a) Item numbers according to the original CETSCALE. Loading values in the last column are taken from [6].
Addressing the ethnocentric tendencies of Bangladeshi consumers through social identity theory

Our sample size as a whole (all social identities together) validated the applicability of most of the CETSCALE items (13 out of 17 items) for Bangladesh which can be viewed as an evidence of national identity towards preferring domestic products. In this section, by using the discriminant analysis, we will investigate whether there exists any deviation in opinion regarding the modified CETSCALE items if we group the whole sample among different social identities (refer to Table-1).

We begin with the results of two group (samples from border and non-border districts) discriminant analyses and these results show that there are six items (I4, I7, I8, I12, I13 and I14) with large mean differences (0.68, 0.74, 0.57, 0.57, 0.55 and 0.53 respectively). It was also found that that F values for these six items are quite high with lower Wilks’ lambda values. For example, item I4 with the highest mean value has the largest F (51.42) and lowest Wilks’ lambda (0.939) with a significance of 0.000. These tests indicate that these six scale items are also the variables with significant univariate differences between the opinions of the people of border and non-border areas. As we followed the step-wise estimation procedure, we first decided to add item I4 to the discriminant model because of its significant group differences. We re-ran the discriminant analysis after incorporating I4 and the process continued until there were no significant discriminant items left based on F values, Wilks’ lambda and tolerance level. A summary of the final-stage discriminant analysis is provided in Table 5.

The canonical correlation value for the analysis is 0.753 which shows around 56.7% (square of 0.753) of the variance in the dependent variable can be accounted for by this model.

**Table 5: Summary of discriminant analysis between border and non-border area respondents**

<table>
<thead>
<tr>
<th>Items</th>
<th>Discriminant coefficient</th>
<th>Classification function coefficient</th>
<th>Loadings</th>
<th>Rank</th>
<th>Canonical correlation</th>
<th>Eigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Border</td>
<td>Non-border</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I4</td>
<td>0.453</td>
<td>0.366</td>
<td>0.533</td>
<td>0.699</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>I5</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.342a</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
Can Social Identity Theory Addresses the Ethnocentric Tendencies of Consumers?

<table>
<thead>
<tr>
<th></th>
<th>0.437</th>
<th>0.245</th>
<th>0.425</th>
<th>0.640</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>I6</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.174 a</td>
<td>10</td>
</tr>
<tr>
<td>I8</td>
<td>-0.357</td>
<td>0.453</td>
<td>0.40</td>
<td>0.516</td>
<td>6</td>
</tr>
<tr>
<td>I11</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.154 a</td>
<td>11</td>
</tr>
<tr>
<td>I14</td>
<td>0.315</td>
<td>0.558</td>
<td>0.672</td>
<td>0.578</td>
<td>5 0.753 0.615</td>
</tr>
<tr>
<td>I15</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.310 a</td>
<td>8</td>
</tr>
<tr>
<td>I17</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.265 a</td>
<td>9</td>
</tr>
<tr>
<td>I2</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.088 a</td>
<td>13</td>
</tr>
<tr>
<td>I3</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>0.101 a</td>
<td>12</td>
</tr>
<tr>
<td>I12</td>
<td>0.240</td>
<td>0.462</td>
<td>0.556</td>
<td>0.580</td>
<td>4</td>
</tr>
<tr>
<td>I13</td>
<td>0.225</td>
<td>0.188</td>
<td>0.273</td>
<td>0.605</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: “These items are not in the discriminant analysis. discriminant items are: Bangladeshi products, first, last and foremost (I4), A real Bangladeshi should always buy Bangladeshi-made products (I7), We should purchase products manufactured in Bangladesh instead of letting other countries get rich off us (I8), Curbs should be put on all imports (I12), It may cost me in the long-run, but I prefer to support Bangladeshi products (I13) and Foreigners should not be allowed to sell their products in our markets (I14). Item numbers are according to Table 4.

**Discriminant equations of the model**

It was found in the above analysis that the opinion of the respondents of border and non-border districts measured using modified CETSCALE varies in six items. Thus, the combined discriminant equation can be written as:

\[
DF_{\text{Border & Non-border}} = -2.325 + 0.45 I4 + 0.43 I7 - 0.36 I8 + 0.24 I12 + 0.26 I13 + 0.32 I14 \tag{1}
\]

In the above equation, higher absolute coefficient values for the scale items indicate more ethnocentrism among the consumers. Equation 1 shows that the value of the coefficient of item I4 (Question: Bangladeshi products, first, last and foremost) is maximum, which means consumers are most concerned about ensuring that in any situation (irrespective of price or quality of the product) Bangladeshi products should be used by the Bangladeshi people. They believe a one percentage increase in believing this particular item causes a 45% improvement in the ethnocentric tendencies of the Bangladeshi consumers. The second important item for consumers is ‘a real Bangladeshi
should always buy Bangladeshi-made products’ (item I7), establishment of which leads to a 43% increase in ethnocentric behavior.

Another aspect of interest is found when checking the individual discriminant functions of the respondents of border and non-border districts independently, as given below:

\[
\begin{align*}
DF_{\text{Border}} &= -4.109 + 0.37 I4 + 0.24 I7 + 0.45 I8 + 0.46 I12 + 0.19 I13 + 0.56 I14 \\
DF_{\text{Non-border}} &= -5.840 + 0.53 I4 + 0.43 I7 + 0.40 I8 + 0.56 I12 + 0.27 I13 + 0.67 I14
\end{align*}
\]

Equation 2 and 3 demonstrate that residents of non-border districts have comparatively higher coefficient values in five out of six discriminating items and in the remaining item (I8), coefficient values have a negligible difference (0.05). Higher coefficient values in most of the discriminant items for the residents of non-border district signify that they are more ethnocentric than the consumer of border areas. The results (equation 2 and 3) stated above necessarily shows that when we put the whole population into two different social identities (inhabitants of border and non-border), they differ in opinion on six ethnocentric grounds in order to maximize the interest of their ‘in-group’ from that of ‘out-group’. This finding establishes the explanatory power of social identity theory in addressing ethnocentric behavior of the consumers.

With lower coefficient values for items 4 (coefficient is 0.37) and 7 (0.24) (‘Bangladeshi products first and foremost’ and ‘a real Bangladeshi should always buy Bangladeshi-made products’), consumers in border areas proved that they are quite different in their purchasing behavior compared to non-border districts, and they don’t really accept the attitude of ‘always’ buying local products (refer to equations 2 and 3). There may be two reasons behind such finding, a) lower prices dictate their purchasing decisions; and b) since many people in border areas are engaged in smuggling, they seem in favor of foreign-made products. These two arguments are further supported by their lower preference (coefficient is 0.46 against non-border’s 0.56) towards item 12 (‘Curbs should be put on all imports’), which means the consumers in border areas have become habituated to the low-priced foreign-made products, believing that by reducing (or abolishing) the import duties, consumers can get products legally at much cheaper prices. Not to mention that the opinion is very self-centered or ‘in-grouped’ and this is due to their low level of income.
Consumers of border area have shown their least interest (coefficient is only 0.19) on item-13 (It may cost me in the long-run, but I prefer to support Bangladeshi products) which means they only care about their ‘in-group’ interest in buying available products at a cheaper price. Even if they know that proliferation of foreign-made goods can destroy the markets of Bangladeshi products in the border areas, these consumers are highly non-ethnocentric due to their lowness of income and considering that smuggled goods are the only income source for many of them. It can thus be argued that the consumers of border areas are less ethnocentric not by nature but because of the present interests they would like to maximize and this nature substantially represents the phenomenon of social identity theory.

Consumers in non-border districts have quite opposite the opinion as they put a very high priority (0.67 and 0.56) on ‘not allowing foreigners to sell their products here’ and ‘putting curb on imports’ (item 14 and 12), which can be seen to confirm their ethnocentric behavior (refer to equation 2 and 3). As the consumers of non-border areas do not get the foreign-made goods as cheap as the border consumers, for them ethnocentrism to large extent offsets the luxury of using foreign-made products. Consumers of non-border areas know that when the transportation cost is added, or the legal import duties are added, the better quality foreign-made products become expensive compared to the local products and for many of them those high prices may go beyond their purchasing power. Thus many of these consumers may try to fulfill their ‘in-group’ interest in the name of ethnocentrism.

To explore whether similar pattern of ethnocentrism exists among other social identities, we performed discriminant analysis for them and their respective functions are shown below:

\[
\begin{align*}
DF_{\text{Gender}} &= -1.721 + 0.48 I_4 \\
DF_{\text{Male}} &= -1.966 + 0.77 I_4 \\
DF_{\text{Female}} &= -2.268 + 0.84 I_4 \\
DF_{\text{Occupation}} &= -0.926 + 0.32 I_4 + 0.22 I_5 - 0.37 I_8 \\
DF_{\text{Student}} &= -4.424 + 0.57 I_4 + 0.69 I_5 + 0.45 I_8 \\
DF_{\text{Jobholder}} &= -3.976 + 0.46 I_4 + 0.58 I_5 + 0.59 I_8 \\
DF_{\text{Businessmen}} &= -3.833 + 0.35 I_4 + 0.56 I_5 + 0.69 I_8
\end{align*}
\]
Discussion and managerial implications

One interesting finding from equations 4, 5 and 6 is that male and female consumers discriminate in opinion on only one item (item-4; Bangladeshi products, first, last and foremost) of the CETSCALE. In addition, the difference between coefficient for male and female on item-4 is negligible too (only 0.07). All these findings necessarily signal that these two social identities (male and female) behave as a single ‘national identity’ while describing their ethnocentric tendencies and prefer to maximize national interest other than their ‘in-group’ interests. However, results (equation 5 and 6) show that female consumers are more ethnocentric than male consumers. A higher negative intercept value (-2.268) of female consumers depicts their belief that lack of ethnocentrism may cost high to the national business.

The group, students, have shown their higher priorities (coefficients are 0.69 and 0.57) on items 5 and 4 (“Buying foreign-made goods that have substitutes produced in Bangladesh is un-Bangladeshi” and “Bangladeshi products first, last and foremost”) from which it can be assumed that Bangladeshi tags are important to students when buying a product. This has crucial implications for the managers and Bangladeshi producers who should use labels which state that “this product is proudly Bangladeshi-owned”. The “made in Bangladesh” tag could be a potential threat to the foreign companies since students -- one of the largest consumer segments -- prefer to see such tags on products. In addition, due to low levels of current income, students (especially those who live on small sums of pocket money) may sacrifice the “quality” factor of a product and instead concentrate heavily on the “price”, the factor for which Bangladeshi companies may have a comparative advantage -- a significantly potential threat that MNCs need to consider. This finding is also relevant for those Bangladeshi companies who are planning to produce off-shore and sell the product back to Bangladesh -- their products may suffer from having a different “made in” tag. However, one major implication of these findings is that students do support Bangladeshi products but that may not be for their ethnocentric tendencies rather because of the lowness of income which reflects their ‘in-group’ interest. It can be hypothesized based on the findings (equation 8, 9 and 10) that as a student someone puts higher priority on CETSCALE items but that priority diminishes (compare the coefficient values of item 4 and 5 for job holders and businessmen with students) when he/she gets a job or start a business and earn more than his/her student life.
Thus, students with such ethnocentric preferences are in fact maximizing their ‘in-group’ interest which is caused mainly by lowness of income and those preferences may be a temporary reflection of their ethnocentrism as long as they belong to the social identity of student.

Our argument that ‘the social identities can address the level of ethnocentrism’ can be proved further. For example, result shows that among three occupational groups, businessmen have lowest ethnocentric perception (intercept value is -3.833 in equation 10), however, they put the highest preference (coefficient is 0.69) on item-8 (We should purchase products manufactured in Bangladesh instead of letting other countries get rich off us). A quick look to this item reveals that this is one of the items in which businessmen are supposed to be most interested because if the Bangladeshi consumers buy locally manufactured products, its major benefit will go to the businessmen. Thus to much extent by putting their highest preference on item-8, the businessmen actually try to preserve their ‘in-group’ interest (maximizing sales and profit) under the signboard of ethnocentrism.

Finally, it can be explored from the results (Table-4 and all the equations) that in one item (item-2; Only those products that are unavailable in Bangladesh should be imported) there is no discrimination in opinion among all the social identities discussed above, which means they all support this particular item. A possible interpretation of such finding would be that the Bangladeshi consumers might believe that competition may increase in the market with a tolerable level of imports, which will eventually reduce the price of the products and in turn that would benefit the consumers financially. The only conclusion we can deduce from this finding is that every social identities behave opportunistically to maximize their interest sometime ‘in-group’ and other times as a ‘national identity’ thus social identity theory is fully capable of addressing ethnocentric behavior of the consumers.

One thing is for sure that, the ethnocentric behaviors of the social identities differ as they are highly influenced by their ‘in-group’ interests such as current income of the consumer, price, availability and quality of the product etc. For example, in case of male and female, they are not grouped according to income, educational qualifications or their location in the country. Thus from that bigger social identity perspective (gender), they didn’t maximize their ‘in-group’ interests rather they focused more on national interest and had almost no discriminant items from modified CETSCALE. But, on the other hand, when social identities are grouped according to their location
(border or non-border), the consumers of the border areas are found to be less ethnocentric because: a) they can buy foreign-made products at a cheaper price which maximizes their real income as well as consumer surplus, b) quality of the foreign-made products is equivalent to that of Bangladeshi products (in some cases it is even better) and c) many of the border area people live on smuggling and selling foreign-made goods which made them to think of their ‘in-group’ interest and thus less ethnocentric than the ‘out-group’ (non-border consumers). Similar explanation can be given for social identities which are grouped according to their current occupations. For instance, students have comparatively much lower income than job holders and businessmen and thus they prefer to buy cheaper Bangladeshi products by compromising the quality. In doing so they are actually preserving their ‘in-group’ interest (they know that foreign-made products would be of high price due to import duties and may be beyond their capacity) even though they labeled their attitude as ethnocentric.

Conclusions

This paper investigates whether ‘social identity theory’ can address the issues of consumer ethnocentrism by applying a 13-item modified CETSCALE validated for Bangladesh. First part of the paper discusses about the CETSCALE modification process to make it usable for the present investigation. In the second part, statistically significant results found the evidence that the ethnocentric tendencies of different social identities (male and female, consumers of border and non-border districts, students, job holders and businessmen) in Bangladesh are highly influenced by their ‘in-group’ interests which make them act differently (less or more ethnocentric) from others or ‘out-groups’ thus social identity theory can explain the issues of consumer ethnocentrism. For example, results demonstrate that consumers of border districts in Bangladesh are less ethnocentric than that of non-border districts which might be shaped by their self-interests such as: foreign-made products can be found there at much cheaper rate than Bangladeshi products and many of those who reside in border areas live on selling smuggled products. Thus preserving their ‘in-group’ interests is always preferred to a higher degree of ethnocentrism which signifies the applicability of social identity theory in analyzing consumer ethnocentrism. It is recommended that validity of the CETSCALE and applicability of social identity theory in addressing the
ethnocentric behavior of the consumers in other developing countries need to be tested.

References


**Appendix**

**Appendix Table-A1: The original CETSCALE**

1) Bangladeshi people should always buy Bangladeshi-made products instead of imports.
2) Only those products that are unavailable in Bangladesh should be imported.
3) Buy Bangladeshi-made products. Keep Bangladesh working.
4) Bangladeshi products, first, last, and foremost.
5) Purchasing foreign-made products is un-Bangladeshi.
6) It is not right to purchase foreign products.
7) A real Bangladeshi should buy Bangladeshi-made products.
8) We should purchase products manufactured in Bangladesh instead of letting other countries get rich off us.
9) It is always best to purchase Bangladeshi products.
10) There should be very little trading or purchasing of goods from other countries unless out of necessity.
11) Bangladeshis should not buy foreign products, because this hurts Bangladeshi business and causes unemployment.
12) Curbs should be put on all imports.
13) It may cost me in the long-run but I prefer to support Bangladeshi products.
14) Foreigners should not be allowed to put their products on our markets.
15) Foreign products should be taxed heavily to reduce their entry into the Bangladesh.
16) We should buy from foreign countries only those products that we cannot obtain within our own country.
17) Bangladeshi consumers who purchase products made in other countries are responsible for putting their fellow Bangladeshis out of work.

Source: Modified from [6].
A lot of work has gone to standardize the financial accounts of insurance and requirements of reimbursement ability. These projects are made by various international organizations. This will alter the way the insurance companies keep their accounts and how they design strategies. All this work in accounting is being done to increase transparency and provide the most realistic accounts of insurance. This is an indirect form to protect the policyholders. Even the regulation on repayment ability is a method of protecting policyholders.

Accounting is the process of collecting and reporting financial information about entity or about a group of units. Accounting practices are developed over time and they reflect the traditional national accounts. With the development of EU and increased activity of insurance companies or other companies outside the national borders, finding of a common way to present financial data of companies is becoming more critical. In connection with commercial enterprises, accounting information users include managers, investors, potential investors, lenders, investment analysts, regulators and consumers. The accounting changes outlined here, will be mandatory for insurance companies listed on stock exchange. However it is expected that other companies will adopt these rules as they aim to clearly present the true situation of the company, critical for managing a company.

**Keywords**: Accounting, standard, insurance industry, supervision, regulation, solvency, risk, insurance products, directive, information, financial reporting, etc.
Total area 28,748 km²; Population 3.6 million; Over 1 million Albanians lives abroad;

Why are accounting standards important? Who uses this information?

a. First of all, information's are important for companies, as they demonstrate the state of the company and should serve as a basis for strategic decisions.

b. Accounting information’s are of great importance to the insurance supervisors. Insurance commissioners are charged with reviewing the financial condition of insurance companies, doing business in their jurisdiction and they get meaningful financial information, statistical and operating for insurance companies. This information is used for a meticulous financial analysis of insurance companies. That financial supervision is designed to help policyholders and to fully compensation from insurance policies sold to victims. Often timed these products have been sold years or decades prior to the claimed profits. Regularly its regulatory perspectives vary significantly with
the perspectives of other users of insurers accounting information. In support of this particular concern and responsibility, statutory accounting principles rooted in statute, regulation, and practice.

c. Although most of commercial enterprise financial costumers do not have any direct financial interest in the company, mostly they are just concerned on the price placed on the product or the service they are purchasing, they can use accounting information to determine the goal with which they are entering in financial transactions. This is especially critical for the purchase of insurance products, as insurance contracts include a promise for payment that may extend over many years. Insurance products can offer higher profits than the premium paid and can only be assessed at the time the product is purchased (the police).

d. Information is also used by competitors or by the rating agencies; therefore the information quality and the clarity of its presentation are critical. In many countries there is a difference between financial accounting offered by the company and the report provided to the supervisory authority.

The relationship between accounting and solvency.

A joint effort in the calculation of minimum required capital, for insurers to is to enforce the predetermined factors used to measure risk exposure, taken by the insurer’s accounting framework. So, different demands on the repayment are often closely related to the insurer’s accounting system. There are various systems in accounting. Different requirements over the surplus will be determined by different systems. As a result of the way that different accounting systems define the values of assets and liabilities, they may create hidden surplus or deficit. Capital requirements arising from these systems, means that one must know exactly the hidden values.

A correct determination of the true financial strength of an insurer will require an assessment of its balance sheet under a system based on true values and that does not generate hidden surplus. IASB is currently developing a system like this. It’s important to remember that the traditional accounting systems are based on the notion that they will exist in the future. However, in determining capital requirements to protect the repayment ability - this does not necessary mean the same thing keeping the continuity of the organization. Repayment ability standards can be defined in terms of liquidation. In this case the object would be to ensure that the insurer has sufficient funds on hands,
to pay claims and the nonprofit premiums in order to satisfy other creditors. This standard would be appropriate for the types of small insurances in the insurance business.

Run-off is based on the second attempt of repayment ability. In this effort, a main goal is the continuity of all long term insurance coverage. Accounting identifies financial progress from one period to the other it gives great importance to the statement of income and losses and then makes careful regulatory changes. A positive financial progress is a good sign for the future repayment ability, careful monitoring focuses on the balance, for example; the capacity of providers to meet their obligations towards present and future claims of the policyholders. It would be better to define the requirements in terms of total balance; for example - for the required amount for liabilities and capital (repayment ability). Using the total balance requirements, calculations allow it to be independent of the accounting system. Capital requirements can be accessed as a difference between the total required the balance the demands total liabilities determined on the basis of the accounting system.

Currently, on monitoring and calculating the repayment ability, some vigilant supervisors have adapted other requirements beside those imposed by the Third Life Directive. This can cause difficulties in determining the relative financial strength of insurance companies in the EU, and between different providers within the same group. Increasing global financial groups may provide an advantage in harmonizing the efforts of careful supervision. Using the regulations in accordance with IAS while choosing among different options, could be a strong tool for achieving this.

The use of IAS within repayment ability framework would imply that most financial assets would be included with real value (although some still use amortized cost for certain portfolios of bonds). Use of subjects specific (insurers contract) or the methodology for determining the real value of technical reserves is designed to mirror the evaluation of other financial instruments as much as possible. Compliance with IAS-in will enable to clarify the discrepancies between assets and liabilities. This would be beneficial to insurance companies when examining their problems and liquidity needs.

**Differences in accounting purposes**

Differences between financial accounts and supervisory returns, can be summarized as follows:

a. Accounting question’s how much capital a company has? (What are
its assets and liabilities?)

b. Supervisors and managers question: how much money a company must have? (What assets and liabilities should the company contain in order to protect the policyholders interest?).

The links between accounting purposes

Which are the relations between financial reports and the reports received by the surveillance agency? What are the links between solvency repayment calculations and other analytical tools used by supervisors? This issue is critical for the repayment ability II project of the EU, since it raises the issues of supervisors needs for accounting information, or to identify possible alternatives on where to find such information.

Supervisors need for accounting information

a. Use of accounting information from supervisors.

Supervisors’ need for accounting information reflect their responsibility to protect the interests of policyholders. They use accounting information for a variety of reasons, including:

- Supervisors’ financial analysis (the repayment ability monitoring, early warning systems, the calculation of ratios for the intervention of supervisors, etc.)
- Repayment ability adequate statutory capital and calculation.
- Input for other surveillance systems and statistics.

b. The respective goals of financial reports, and the returns of supervisors.

Often, supervisors’ needs for accounting information are different compared to other users. Supervisors are required to be able to assess an insurer’s ability to meet its obligations at all times, while other users (especially in financial markets) want to measure a company’s revenue from one period to the next. When it comes to repayment ability requests for supervisory authorities, typically arise when insurance companies have security problems. Rules are formulated as a result of emerging problems. This is a proactive response towards the financial reporting rules.

Repayment ability II shows important changes of both international and EU level in the supervision of issues that are related to accounting information. Choosing a general reporting framework; is a very controversial issue in the EU and beyond. There are two main efforts in this direction. The
driven model and the unionized one, attempts to match revenues and cost for the respective periods, and the effort on the assets and liabilities puts emphasis on determining the current values of assets and liabilities on the balance sheet. This election is very important, since it would be followed by other findings of these large elections (i.e. use of deductions, the principles of assessment, equalization of reserves and deferred acquisition costs.)

**Financial reporting**

What is the foundation of a company's accounts? The starting point of producing accounting information on the accounting system is the holding company's account. This information is presented later in accordance with certain rules and conventions of accounting in order to form part of an accounting report. Companies in regulated sectors, such as banks and insurance, produce an annual report and are also required to implement the so called prudential reporting requirements, as i.e.:

- Returns from supervisions, supervisory statements, regulatory statements, statements carefully for insurance supervisory authorities.
- A separate statement for taxes.

The strong interrelationship between financial reporting and monitoring returns in many Member States should be considered in the other elections, for a future sustainable repayment ability of the EU. Currents developments in EU and international accounting, should be also analyzed in the perspective repayment ability; in order to see whether the financial statements can be used as the basis for the monitoring returns.

**International accounting standards for insurance companies**

It’s important that an insurance IAS, to meet the following requirements:

- It should reflect and take into consideration accurately, the characteristic elements of the insurance business (i.e. risks accumulation, diversification of risks, long-term nature of the business, changes in the production cycle). Normally, it is not the last goal of the insurance company to sell its portfolio (as assets covering technical reserves and technical reserves), but to keep technical reserves or assets attached to maturity. In many countries, should be taken an approval of the regulatory after transferring a portfolio of risks.
To not charge more than needed, the insurance companies, which previously must meet additional information to other interested parties (i.e. policyholders, financial analysts, regulators).

- Other providers of financial services, such as banks and securities firms; as well as firms in other sectors should be treated equally in accordance with the accounting methods used. In contrast, the ultimate goal of enabling investors to the compare the annual accounts of insurance companies, with commercial and industrial companies, can not be realized.

- The following standards must be constant enough, to provide the presentation of reliable information, verifiable and essential. In controversy, the objectives of transparency and comparability would not be met.

The main idea behind the changes in accounting practices is to increase transparency. The work is done in two phases. The first phase includes the following items and the second phase will further develop a number of other issues.

a. New standards would apply at the insurance contracts (and all the risks that they entail) and not to the insurance companies. Have to make the difference between insurance contracts (which are contracts where we have a transfer of risk associated with a specific future event) and other contracts (i.e. many European savings contracts ) to be defined as financial instruments.

b. The IAS will become mandatory for companies listed on the account that is showed in 2005 or later. As currently they are formulated actually, the new standards that are proposed, ensure that all assets and liabilities are valued at current market value. All changes in value are reflected in the income statement. Insurance derivatives contracts (such as interest warrants) in different circumstances should be shared and evaluated separately under IAS 39. All this effort will increase the complexity of insurance accounts. Results will also be predictable.

c. The new standard will apply an attempt to measure assets and liabilities in contrast to the traditional efforts of delay and compliance. Items such as deferred costs will be disappeared.

d. Assets and liabilities will be measured based on the perspective, measuring the present value of all cash flows, arising from the closed book of insurance contracts at the reporting date. Measurement of insurance liabilities should reflect the risks and uncertainties, either through cash flows or through the discount rate. Variations on the present value of liabilities and assets, are included in the income statement, in which they arise. As a result, there will be
higher volatility of liabilities and expenses.

e. The non-profited reserves for premiums and reserves for catastrophes or draws, will also not be permitted. This means that the results would vary more from one year to another.

f. Insurance liabilities will be evaluated independently of the investment strategy of the individual insurance company.

EU harmonized rules for financial reporting and from oversight

Financial reporting rules for the following companies are included in Directive IV and VII. For financial institutions and insurance companies there are special guidelines for the accounting sector (Directive on banking accounts-BAD-and insurance accounts directive-IAD). IAD has been implemented in 1991. The Directive harmonizes accounting of insurance companies in the EU, but there are still many national alternatives. An important option is concerned with the possibility that Member States allow or require the evaluation of investment at historical cost and current value (values dealing with unresolved options should still be included in the notes). Another important option allows Member States to require or allow the reduction of technical reserves for non-life insurance, under certain conditions. Prudential directives emphasize that each Member State shall require every insurance company based in its territory, to provide an annual report, covering all types of operations, its financial situation, the repayment ability.... There is no general requirement that the annual group accounts must be established in accordance with IAD-in. In specific areas, such as evaluation of non-life technical reserves, prudential guidelines make a special reference to the rules of the IAD.

The situation in Member States

Member States have used the financial reporting requirements and reporting of supervisors to achieve a situation where the same accounting rules are used for both purposes. Consequently, many Member States use most of AID’s regulations also for supervising accounts, and all Member States appear to use the specifications to assess the prudential guidelines for financial statements.
Current and future developments. Developments in the EU financial reporting

Rules on the use of international accounting standards, the Commission has proposed that all EU listed companies, must submit the accounts under IAS since 2005. For unlisted companies will continue to apply the accounting directives. Member States may add to the requirements of IAS also for other types of companies. International standards should be sanctioned, before they become mandatory in the EU.

Modernization of IV and VII Directives on the Law on Companies and the Insurance Accounts

Commission intends to streamline certain accounting guidelines in order to align them with current accounting practices and to avoid current and future differences with IAS-in. The Commission will propose certain amendments to the Insurance Accounts Directive. A general review of insurance accounts directive will be needed when you know the outcome of international discussions of accounting and when the repayment ability II project have progressed more. The guideline for banks accounts has improved in order to allow a fair assessment of IAS 39 limited.

International financial reporting developments

There are a number of committees and professional organizations involved in work on the revision of accounting standards. Among these organizations are active organizations of actuaries.

International developments of repayment ability, in Member States and in several other jurisdictions:

a) Developments in the sub - Committee of the IAIS repayment ability Sub – Committee. The IAIS reimbursement ability, together with the sub - Committee of the IAIS Accounting are preparing a paper on insurance technical reserves.

b) Developments in Regulatory Committee of IAIS. One of the main tasks of the regulatory committee of IAIS is to cooperate on the International Association of Insurance Supervisors (IAIS) on the related issues to regulation and supervision of insurance companies, and also work with accounting standards committee of the IAA , in connection with exchanges
between accounting standards and supervisory requirements for insurance companies. Recently has been prepared a discussion of the regulatory committee of the IAA’s repayment ability issues.

**c) Developments in Great Britain (UK).** The Financial Services Authority is presenting a new manual. “Measure the source” will be implemented in 2004. It will include international developments such as project accounting fair value of the IAIS and the repayment ability II of the EU, regarding the revision of capital requirements for insurance firms.

**d) Developments in Denmark.** Denmark has introduced new accounting rules for life insurance companies to build real values or market values. From the 2002 the bonds will be valued at market value (it exists for the shares), and since 2003 also for the liabilities of life insurance companies. The rules have to be applied as for financial accounts and statutory accounts.

**Contents of Project II repayment ability**

The EU Commission is proposing the strengthening of protection of the amendment policyholders required repayment solvency margins. Proposals for life insurance and non-life, aim to strengthen the solvency margins required repayment ability insurance companies in order to serve as a protective policy holders interests.

These proposals are key measures of the action plan of financial services that the Council of Europe in Lisbon said that should be implemented in 2005. The action plan has three strategic objectives: to create a single market for wholesale financial services, to ensure that retail markets are enter safely and easily, and offer modern prudential rules and supervision.

There are two proposals: one covering life insurance, and the other covering non-life insurance. The two proposals have many common elements. The two proposals represent a package of measures that should be respected by all insurance companies qualified under the guidelines of the EU insurance for a single passport to sell policies across the EU, based on a common recognition surveillance of a host country company. Taken as a whole, the proposals will reinforce and significantly improve the current rules dating respectively since 1973 (non-life) and 1979 (life). With the new proposals:

- The Member States would be free to impose tougher rules than the harmonized rules on the reports of the repayment capacity set by the Directives, so that they can take into account local risks faced by companies they supervise;
• Rules on the absolute minimum amount of capital required (the so-called minimum guarantee fund) will power and indexed in line with inflation, what threshold of premiums and claims for the following categories, which required a greater safety margin. For non-life insurance, the number of different funding guarantee will be reduced from four to two and the rules will be simplified. The new minimum will be moving three million € (two million € for certain categories of non-insurance - life). There should be generous transition rules for implementing the new minimum levels. With the accession of new EU countries, one of the most critical aspects of the negotiations will be a transitional period.

• Supervisors will have an increased power to intervene earlier, to take remedial action when policy holders interests are threatened, i.e. in situations where an insurance company currently meets the requirements but its financial position is worsening rapidly;

The request for a higher margin of repayment ability, will be decided for certain categories of non-life insurance, subject to large movements of the results (navy, aviation and responsibilities). Besides reinforcing the required solvency repayment, goal is better coordination between regulatory capital and risk company profile. Those real proposals aim to clarify, simplify and improve the rules MDI minimum amount of capital that insurance companies should hold.

The main proposals

• A required margin of repayment solvency of 50% higher grade applied to 11 (charge of aviation), 12 (responsibility of the Navy) and 13 (overall responsibility) non-life business that have a risk profile very unstable.

• Reduce the required solvency margin for reinsurance repayment is based on an average three-year (unlike that one year) to report reimbursement damages incurred. More significantly, supervisors have the power to reduce the margin required when the nature of the reinsurance program, or when its quality is impaired, or when there is no risk to be transferred.

• Calculation of required margin of solvency current repayment non-life insurance may not provide satisfactory results when the volume of business falls drastically. Reduction of margin required can not be reduced proportionally more than the technical reserves.

• To reserve assets to cover the required margin of safety have occurred.
Generally assets are treated in accordance with their relative financial strength. Powerful assets received without any limit, others with some restrictions, and the lowest accepted only with the approval of supervisors.

- Levels of minimum guarantee fund (the absolute amount of capital required minimally) increased and indexed in line with inflation, such as thresholds for the degree of separation rates for premiums and claims. For non-life insurance, simplified regulations reduce the potential number of minimum funding guarantee two (of four); point of departure to a new level of guarantee was put € 2 million or 3 million € will be entitled to any of the classes the following: 10 (motor liability), 11 (responsibility of aviation), 12 (responsibility for marine resources), 13 (overall response), 14 (credits) and 15 (relationship of warranty) non-life business. For life insurance point of departure was put 3 million €.

- For companies common continues to have 25% reduction.

- The required margin of solvency must be maintained repayment all the time (not just the balance sheet date to be filled).

- Member States are free to impose more stringent rules for companies that are authorized by their own rules than the required margin set in the Directive.

- There will be transitional periods to give companies time to enhance the ability repayment margins.

- Small joint claim not to receive the benefits of a single passport (for the whole EU), are not subject to the Directive and thus can be monitored less rigorist. Annual contribution threshold is increased to 5 million € (of 100 000 that was).

How changes will cause the implementation of these proposals? Since many companies currently working with margins that are much higher than the actual margins required, they expect not to be affected by these changes in the required margin.

Perhaps most importantly is the right of supervisors to impose higher margins when threatened policyholders’ risk capital, to assess the need for a higher margin required and ensure their implementation by each insurance company.

**Deadlines**

In accordance with the action plan of financial services, the proposed Directive was implemented in 2002-n. The Commission has proposed to implement a Directive by Member States within 18 months from putting into
use.

**Further developments**

Repayment ability is only one aspect of the financial position of the insurance company. The Commission now intends to launch a large-scale testing of the overall financial position of insurance companies to see if it needed any further improvement.

**Possible solutions to insurance accounting in IAS-in current and future**

Currently there are around 40 international accounting standards. Most of them also apply to insurance companies. Some standards are particularly interesting for certain insurance companies. IAS 37 excludes claims arising from insurance companies to enter into contracts with policy holder. IAS 39 excludes the rights and responsibilities of insurance contracts from their goal, but the standard covered the most important assets of insurance. IAS 39 was amended in 2002, and an important new element is that further assessment of the assets and liabilities of the companies could become possible. The exact contents of a future international standard of insurance accounting are not known yet. Based on available information, a future standard may have the following key elements:

- The target should be the measurement of assets and liabilities arising from insurance contracts (an attempt to measure assets and liabilities), rather than defer costs and revenues so that they unite with each other (an effort extension and unification).
- Measurement of insurance liabilities should not be influenced by the type of assets held or returns from those assets.
- Assets and liabilities arising from insurance contracts should be measured with specific value in the contract.
- Insurance liabilities (both general insurance and life insurance) should be deducted.
- Reserves for disasters and dead-heats are not liabilities under the IASB’s framework. Necessary can be seen on the specific findings of low frequency, high risks of severe.
- Acquisition costs should be deferred as an asset.
- All changes to the assessment of insurance liabilities should be accounted for as soon emerge. To decide which components of these changes will be presented or displayed separately, the IASB has to monitor developments
on performance reporting projects and further developments on financial instruments accounting.

**In what direction should be conducted on the accounts of insurance Directive?**

Today, insurance accounts Directive provides rules for insurance accounting harmonization in the EU. Significant developments in EU financial reporting may vary directive role. Regulation on the use of IAS by listed companies of the EU, is seen as a reduction of its importance for these companies, as well as makes the changes necessary to keep in line with international accounting standards.

So the future of the Directive is linked to general decisions on accounting for non-listed companies on the stock exchange, as well as the extension to which each Member State chooses to apply IAS accounts for all the institutions have financial. Would have some possible developments for IAD-in. More reasonable might be a possibility that could also amend Directive IV and VII to provide financial reporting rules for companies not listed. At that moment will not be directly relevant for listed companies. However a review of IAD’s future will be aimed at reducing the differences between this Directive and the IAS. This review will be almost vital.

**Extraction of several possible options for the ability repayment II**

At least 6 of the possible alternatives to the project’s ability repayment II, grouped in three classes can be formulated thus:

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<thead>
<tr>
<th>1. Solutions &quot;with a group of accounts&quot; (with additional requirements for surveillance revelations)</th>
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<td>1.1-IAS's accounts</td>
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<tr>
<td>2. Amendment of financial reports for the use of monitors</td>
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<td>The revised 2.2-IAD for financial reporting purposes of Supervisors amended</td>
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<tr>
<td>3. Develop a reporting system monitors specific</td>
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<td>3.1 wording of statutory accounting principles of the EU</td>
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<td>3.2-IAD-keeping of accounting rules as surveillance</td>
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These run the range between three alternatives: virtually any amendment to IAS standards supervisors and a group of totally different accounting rules. The first two alternatives will benefit from the fact that IAS has to be an internationally defined framework. Although not all supervisors can agree with all the details of the IAS framework, there will be a common starting point. Based on this common point additions and amendments can be made transparent. The goal will be finding a common group and add amendments. Although it would not be possible, it would be necessary to develop two independent alternatives (i.e. one for Member States to prefer a framework of real value to others based on a classical accounting framework). This question will be raised on the use of the capability options repayment II package, which seems to be going beyond the goals of this document.

If the number of amendments that are needed for surveillance purposes is great, than we can use the third option. Different viewpoints among EU states on the principles of accounting oversight and the nature of the amendments can be a barrier to such choices. In light of the IAS Regulation on the use of 2005-s, normally the next reporting rules of supervision will not be built on the current-IAD. There are several reasons for this:

a. Seems more desirable amendments or supplements to develop new surveillance, clear and consistent on EU level.

b. Relates to the issue of applicability of the surveillance reporting system for small companies and medium. Most of these companies can not prepare IAS accounts and so will continue to do reporting in accordance with the amended IAD-in for financial reporting purposes. Generally, an IAD future will probably evolve in the direction of the IAS, perhaps with certain amendments to SME’s.

c. This would make it easier for insurance companies seeking to be listed in the future. A similar pattern can also be used for surveillance purposes of reporting.

d. It is also necessary to differentiate between companies that prepare IAS financial statements and other companies. Some Member States have shown that certain intended to require all companies to file financial sector’s IAS accounts. Others think that it would not be practical or appropriate.
Possible options for project accounting capability repayment II

a. Solutions, “a set of accounts”.

It is practical and efficient to use financial reports for both supervisory purposes. This reduces the administrative burden on companies. This model is used in a number of Member States. But do not claim that all supervisors needs to be provided by a set of accounts to reflect mainly the capital market needs.

b. IAS accounts (with the additional requirements of supervision acceptable) will be required from all EU listed companies from 2005, including insurance companies listed. So it is logical to require or at least allowed the IAS accounts for surveillance purposes.

Using the IAS may lead to a convergence of various traditional accounts in the EU, financial reporting, as in the surveillance report. IAS has not primarily takes into account the problems of surveillance. Some of the proposed accounting treatment would not be acceptable for certain oversight. It may not be sufficient to require additional admissions requirements watchers. Not seen as possible that the EU can deliver a system with “a set of accounts” on the basis of the IAD. IAD’s role will probably change in the future. IAD has contains more options and does not lead to increased harmonization of the project provided the ability repayment II.

Conclusions

These are pragmatic solutions appear as they use financial reporting rules and potential limits amend only items that are not acceptable to the supervisor. Such solutions are widely used in the present days. However days if these amendments are not kept to an absolute minimum, companies will be subject to a double job.

A revised IAD for financial reporting can be amended for the purposes of surveillance. This option would provide a practical solution for companies not listed. A revised IAD for financial reporting purposes will focus on accounts of insurance companies to small and medium enterprises. This may not be a useful basis for reporting, surveillance, or at least not for the insurance companies listed. A set of rules collected for surveillance needs can be met. Quality of reporting of surveillance will be increased significantly. Such solutions would require a great job at EU level. It is not clear whether the consensus necessary for detailed accounting solutions.

• Formulation of Statutory Accounting Principles of the EU. EU level
harmonization statutory reporting would increase too. It can also have positive effects on financial analysis of surveillance. Statutory Declarations must be audited.

- A future IAS would necessitate a large number of amendments to the surveillance and reporting in this way must be done consistently and comprehensively.
- There is no agreement among Member States on key issues of accounting oversight. It would require enormous resources and an increasing number of specialized staff at EU level.
- Keeping the IAD for surveillance purposes.

In general, IAD accounting solutions broadly reflect the needs for monitoring. There is significant experience in implementing the directives and the Member States have learned to manage the use of options. This alternative would be a pragmatic way toward clarifying the different opinions between Member States on many issues of statutory accounting. However, with current options, IAD did not may provide improved comparability and harmonization that we are seeking to project the repayment ability II.

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Financial and Non Financial Determinants of Corporate Social Responsibility

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Financial and Non Financial Determinants of Corporate Social Responsibility

Accounting, economic, social and political, and slack resources theories provide different perspectives to addressing corporate social responsibility in relation to disclosure, corporate financial performance e.t.c. This paper aims to identify the determinants financial and non financial of corporate social responsibility (CSR) in Jordan. The annual reports determine a sample of 60 industrial companies listed on the Amman Stock Exchange for a period from 2006 to 2010 in Jordan were used as a basis for the study. The results of the analysis imply that companies that are expected to be large in size firm, age of firm, maintaining growth and are highly leveraged are more likely to voluntary disclose social responsibility information. The result lends partial support to agency and political economy theories

Keywords: Corporate social responsibility, Annual reports of Jordan, Legitimacy Theory

JEL Classification Code: D21, G21, L21, Z12
Introduction

Social disclosure is the giving of account, of corporations social activities to all those affected by their activities in their financial statements. Disclosures are one of the motives of social accounting. Social accounting draws attention to the gulf existing between the sectarian interest represented in conventional business accounting and its focus on profit and the need to see the entire social role of business organization in the context of all those affected by its activities (Glaubert and Underdown 2001).

Existing studies show that CSRD may bring about two advantages for reporting firms. First, it can enhance corporate reputation through gaining trust and support by various stakeholders (Woodward et al., 1996). Second, it is helpful to assess the congruence between the social value implied by corporate activities and social norms (Dowling and Pfeffer, 1975). Information disclosure is closely associated with the social and economic environment, and thus, different social-economic institutions may influence the pattern and level of CSRD.

As the world economy becomes more integrated, firms have been facing more and more pressure to disclose their corporate social responsibility (CSR) information over the last few decades (Hooghiemstra, 2000). It is reported that more than half of the Fortune 1,000 companies regularly issue CSR reports (Jo and Kim, 2008). Consequently, corporate social responsibility disclosure (CSRD) has attracted considerable research interests since the 1980’s.

A wide variety of definitions of corporate social responsibility have been proposed in the literature. While these definitions vary in detail, many focus on voluntary firm actions designed to improve social or environmental conditions (; Wood, 1991a, b; Wood & Jones, 1995). This is the definition of corporate social responsibility we adopt here. Of course, within this broader definition, different stakeholders may have different preferences for specific socially responsible activities they would like to see their firm invest in. Moreover, these preferences may vary as the currency of social issues evolves over time (Wood, 1991a). However, as long as a firm’s actions are consistent with this general definition of social responsibility that is, as long as they are voluntary and designed to improve social or environmental conditions they are considered socially responsible for the purposes of the model developed here.

The specific decision making context modeled here focuses on
determining the total demand for investment opportunities in firms engaging in specific socially responsible activities; the current supply of those opportunities in the market; and whether current supply is less than, equal to, or greater than demand. In this sense, the opportunity to invest in a firm that is engaging in specific socially responsible activities can be thought of as a “product” that is sold by firms to potential equity investors as “customers”.

However, rapid economic expansion has been accompanied with a number of social and environmental problems, including environmental degradation, resource depletion, product quality and safety, social injustice, persistence of poverty and lack of labor protection. In China, there have been a rising number of companies causing significant damage and shocks to the society.

Accounting, economic, social and political, and slack resources theories provide different perspectives to addressing corporate social responsibility in relation to disclosure, corporate financial performance e.t.c. On the accounting side the decision usefulness approach dictated to some considerable extent the information disclosure to all those affected by the activities of corporations. In 1971 the American Accounting Association emphasized that, the principal purpose of accounting report is to influence action that is behavior. It follows therefore, that corporations engage in social and environmental disclosures because shareholders, creditors find it useful for their investment decision making (Spicer 1978; Belkaoui 1980; 1984).

For economic theories, the paradigm for disclosure is the agency theory (watts and Zimmerman 1978). Companies increase voluntary corporate social disclosure to avoid potential pressures from government regulatory agencies that enforces corporate social responsibility (Epstain et al 1976; Trotman and Bradley 1981; and Belkaoui and Karpik, 1989).

Extant studies are dominant for the social and political theory’s position on corporate social disclosure. This includes the stakeholders’ theory the legitimacy theory and the political economy theory. Gray et al (1995) considered these theories not on the competing side or independent of one another but as a united whole. They positioned stake holders and legitimacy theories as overlapping perspective within the frame work of political economy assumptions. While in the economic theory corporation make available social disclosure as a means to coping with government interventions, in the social and political theories, corporation make social disclosure not just for their own economic self interest, but because they are pressured to exhibit social
responsibility by employees, customers, suppliers, the general public and other social activist group. Thus, addressing the claims of multiple stakeholders, managers can increase the efficiency of their corporation's adaptation to external demand (freeman and Evan 1990). The stakeholder theory proposes the satisfaction of various stakeholder groups as instrumental for organization financial performance. This implies disclosure can be seen as a paradigm for initiating, managing, negotiating or manipulation stake holders without whose support and approval the corporation can no longer exist (Roberts 1992).

Because corporate social performance often represents an area of relatively high managerial discretion, the initiation or cancellation of voluntary social and environmental policies may to a large extent, depend on the availability of excess funds (McGuire et al 1988). Waddock and Graves (1997) further posited that, corporate social performance is found to be positively associated with prior financial performance. This supported the theory that slack resources availability and corporate social performance are positively related. Corporate social performance is also found to be positively associated with future financial performance, supporting the theory that good management and corporate social performance are positively related.

Literature Review

Jackson (1982) asserted that accountability explains and justifies what has been done, what is currently being done and what is to be done. Accountability, therefore, involves disclosing more information. Gray et al. (1987) use the notion of accountability as an emancipator concept, assisting to expose and develop social relationships and social contract through a re-examination and expansion of established rights to information. They believe that accountability can be the most useful ideological framework for analyzing accounting information transmission in general and in CSD in particular.

Belkaoui and Karpik (1989) investigated the relationship between a firm's decision to disclose social responsibility information and each of the social and economic performance and political visibility variables. They found that CSD is correlated with firms perceived to display social responsiveness, firms that have high systematic risk and low leverage and large sized firms.

Carroll (1991) categorizes CSR into four types: economic, legal, ethical and discretionary, and organizes them into a pyramid. In this pyramid, economic responsibility is the most important and fundamental responsibility. However,
it is almost impossible to maximize firm value and financial performance if companies are not socially responsible and share with the public their CSR information.

Patten (1992) suggests that social information in annual reports can influence public policies, directly by addressing public and/or legislative concerns, or indirectly by projecting an image of the companies' social awareness. It is argued that the greater the likelihood of adverse shifts in public policy, the greater the need to influence the process through social disclosure.

However, there are some studies that argued establishing the relationship between corporate social performance and corporate financial performance is more strong and favorable when a single industry is focused than cross industry research.

Dealing specifically with Islamic banks, Archer, Karim and Al-Deehani (1998) detail the contractual basis of Islamic banks to outline the special need for corporate governance and disclosure by Islamic banks due to the monitoring weaknesses inherent in the Islamic banking system.

Deegan et al. (2000) argue that the increase in social disclosures represents a strategy to alter public perception about the legitimacy of an organization, and then achieve the continuing mandate of society. Askary (2001) draws on research examining the influence of culture on accounting to classify accounting practices in different Muslim countries according to cultural variables developed by Hofstede (1980), Gray (1988) and Perera (1989). He compares the actual disclosure practices of companies in Muslim countries to the benchmark of Islamic accounting practices as measured by those cultural variables.

Maali et al.'s (2003) rudimentary analysis also suggests that Islamic banks' CSR reporting falls short of the benchmark for entities whose operations are founded on Islamic principles.

The performance indicators to corporate financial performance are seen from a corporation's earnings per share, which has a strong significant relationship with a corporations share price (Hartone, 2004) and patronage of such shares at the stock market.

Many studies show that it is difficult for companies investing in CSR activities to maximize their reputation without disclosing information of such activities (Hasseldine et al. 2005, Toms, 2002). Although it seems a little utilitarian and strategic, it is generally accepted that companies engaging in CSR activities usually concern the disclosure of related information because of
its contribution to financial performance (Orlitzky et al., 2003; Barnett, 2007) or to market value (Mackey et al., 2007).

(Gao, 2009), this paper provides empirical evidence on CSRD from the annual reports of Chinese listed companies. Patten (1992) suggests that social information in annual reports represents one of the most important mechanisms that firms can use to influence public policy without being widely scrutinized by ordinary people who do not have easy access to these reports. CSRD is a critical way for companies to communicate with society, to convince the public that they are meeting their social expectations (Branco and Rodrigues, 2008) Due to the informed application of social pressure, CSRD might be of value to society more generally, either to better gauge the development of policy or to supplement the enforcement of policy by regulatory organizations (Rhodes, 2010).

The hypotheses for this study are formulated as:

**Hypothesis 1:** There is no impact of financial and non financial variables on corporate social responsibility based on model 1.

**Hypothesis 2:** There is no impact of financial and non financial variables on corporate social responsibility based on model 2.

**Data and Methodology**

This paper uses the 60 industrial companies listed on ASE which published annual reports in 2006 to 2010. There are different factors were advanced in the literature to explain variations in the extent of CSR In this study, the key methodology of this paper is to develop a regression model to test our hypotheses and identify the key determinants of CRS among the listed Jordan some models are constructed, all of which use the same explanatory variables but the dependent variables are different. The following model is developed to predict the extent of CSR:

\[
CSR \ (T&E) = \alpha + \beta_1 \times GRO + \beta_2 \times DIV + \beta_3 \times SIZ + \beta_4 \times AGE + \beta_5 \times OSHINI + \beta_6 \times OSHII + \beta_7 \times MAJR + \beta_8 \times LEV + \epsilon_{it} \quad \text{Model} \quad (1)
\]

\[
CSR \ (S&D) = \alpha + \beta_1 \times GRO + \beta_2 \times DIV + \beta_3 \times SIZ + \beta_4 \times AGE + \beta_5 \times OSHINI + \beta_6 \times OSHII + \beta_7 \times MAJR + \beta_8 \times LEV + \epsilon_{it} \quad \text{Model} \quad (2)
\]
Where:

**Dependent Variable:**

CSR: corporate social responsibility for company j; measured by:

**Factor 1:** T& E Training and education as Employee responsibility

**Factor 2:** R&D: The Company is a leader in its industry for research and development (R&D), particularly by bringing notably innovative products to market as community responsibility.

Independent Variables:

GRO : growth in assets for company j;
DIV : dividends paid by company j;
SIZ: company size; measured by total assets by company j;
AGE: firm age by company j;
OSHINI : percentage of ordinary shares held by individual investors for company j;
OSHII : percentage of ordinary shares held by institutional investors for company j;
MAJOR : number of majority shareholders who hold 10% or more of company j's shares;
LEV: leverage ratio for company j;

**Empirical Results and Discussion**

### Table 1: Correlations among variables

<table>
<thead>
<tr>
<th>Ind. Variables</th>
<th>CSR</th>
<th>GRO</th>
<th>DIV</th>
<th>SIZ</th>
<th>AGE</th>
<th>OSHINI</th>
<th>OSHII</th>
<th>MAJR</th>
<th>LEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRO</td>
<td>-0.0743</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIV</td>
<td>0.3458</td>
<td>0.5671</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZ</td>
<td>0.1907</td>
<td>0.1878</td>
<td>0.0564</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>0.2786</td>
<td>0.2057</td>
<td>0.1245</td>
<td>0.0521</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHINI</td>
<td>-0.1321</td>
<td>0.2939</td>
<td>0.1536</td>
<td>0.9191</td>
<td>0.8372</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHII</td>
<td>-0.2341</td>
<td>-0.1277</td>
<td>0.1812</td>
<td>0.1929</td>
<td>-0.1234</td>
<td>0.4251</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAJOR</td>
<td>0.1675</td>
<td>0.2511</td>
<td>0.1242</td>
<td>0.8218</td>
<td>0.1812</td>
<td>0.3531</td>
<td>0.6351</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>0.2371</td>
<td>-0.7217</td>
<td>0.1921</td>
<td>-0.992</td>
<td>0.3727</td>
<td>0.3522</td>
<td>0.3661</td>
<td>0.5352</td>
<td>1</td>
</tr>
</tbody>
</table>
The Pearson correlation analysis results are reported in Table 1. that shows the sign of the relationship between the dependent and independent variables is presented in The results clearly show that none of the independent variables are highly correlated and no multicollinearity amongst independent variables exist and to avoid the problem of spurious regression. Before proceeding with the regressions estimations, it is necessary to investigate the time series properties of the variables by utilizing unit root tests. The absence of collinearity does not always mean that it does not exist. To curb this problem, a diagnostic procedure that utilizes the VIF is employed.

Table 2 reports the correlation matrix which indicates that the highest correlation coefficient is 0.42 for model 1, and 0.40 for model 2. The highest value of VIF is far less than 3. All the results suggest that multicollinearity is unlikely to be a problem. To measure multicollinearity, the variance inflation factor (VIF) was employed. The VIF is computed as follows:

\[ VIF = \frac{1}{1-R^2} \]

Where \( R^2 \): Coefficient of multiple determinations of explanatory variables. Multicollinearity is viewed as a serious problem when the VIF exceeds 10.

Each of the dependent variables is regressed against all the explanatory variables listed in Table 1. Table 2 reports the regression results. In all regressions, the F values indicate that there is a significant relationship between the dependent and explanatory variables. Most of the estimated coefficients have the expected signs and are statistically significant, meaning that the explanatory variables have the expected effects on the dependent variables.

Some significant results are evident at different levels at 5%, 10%. First, firm size is positively associated with the level of CSR in all regressions, second, the extent of growth is positively related with the level of CSR, Third, firm age is positively correlated with the level of CSR. This is because firm age in this study refers to the time span between when a firm was listed on ASE. However, the newly listed firms may have existed for a long time before they were listed. Many of these firms are also large state-owned enterprises which are more likely to publish CSR reports than their private counterparts.

Firm size, growth, market capitalization and firm age are all found to have a significant effect on all the dependent variables. This is consistent
with the first and two model which uses an aggregate CSR as the dependent variable.

Large companies tend to disclose more information than small sized ones, since they have the resources to collect, analyze and report data. In addition, large sized companies are less fearful of competition from much smaller companies. Moreover, it is likely to see large companies raising funds from the stock exchange more than small companies.

Hence, one expects them to disclose detailed information to convince both lenders and investors. More importantly, large companies are monitored by the public eye and are expected to be under political pressure more than small companies. To avoid such pressure, they tend to voluntarily disclose additional information.

In a conservative and religious society like Jordan, pressure is likely to come from religious groups. Such groups would like to see large companies emphasizing Islamic values. To maintain continuity and survival, company management assures these groups by improving communication with society by voluntarily disclosing detailed information that reflects their responsibilities toward society. Thus, this gives support to each of the political economy, agency and legitimacy theories.

The results of the regression are presented in a negative and significant association between the extent of CSR and level of leverage. A positive but insignificant association was also reported between the extent of CSR and each of the government size of ownership and percentage of shares owned by individual shareholders. On the other hand, a negative but insignificant association appeared between the extent of CSR and each of dividend payout ratio, individual and majority shareholders. As for the level of leverage, companies with high leverage are viewed as risky ones. These companies will find it difficult to raise extra funds, whether from banks or stock markets, unless they disclose detailed information that explains their leverage position. In addition, companies heavily involved in borrowing are more likely to pay high interests on the loans. This would result in less dividends being paid.

This lends support to the hypothesis that companies reporting high earnings are very likely to pay dividends. Companies that pay dividends have little incentives to disclose more detailed information. Company management that declares and pays dividends will be convinced that this is sufficient enough to attract external funding, since the aim of majority investors is to secure a
high return on their investment. Companies with stable dividend policy avoid the cost of collecting, analyzing and disclosing additional information.

The results, of shares held by individual and institutional investors and shareholders who hold 10% or more of company shares therefore, are found to have positive effects but not significant on most of the CSR models. This means that the willingness of companies to publish CSR information also leads to higher level of information disclosure. The higher the level of this shares lead to higher level of information disclosure in most aspects of CSR. All the results are not dissimilar to those of existing studies on other countries.

If a limited number of families owned most of the outstanding shares of most companies listed on the stock exchange, these companies would have little incentive to disclose social responsibility information. Hence, a positive association is expected between the degree of stakeholders’ power and CSR. Majority shareholders and the percentage of shares owned by institutional investors can be used as a proxy of stakeholders’ power.

<table>
<thead>
<tr>
<th>Table 2: Regression Analysis Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind.Variable const GRO DIV SIZ AGE OS-HINI OSHII MAJR LEV</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table -1- Model (1)  
R² 0.512  
Adjusted R² 0.4202  
D-Watson 3.252  
F-Statistic 8.881  
Prob(F) 0.034  

Table -2- Model (2)  
R² 0.522  
Adjusted R² 0.402  
D-Watson 3.052  
F-Statistic 7.791  
Prob(F) 0.045  

Note: Asterisks (***), (**) and (*) indicates significance at 1%, 5% and 10% respectively.
Conclusions

An increasing number of investors incorporate CSR screens into their investment decisions. This raises the question of what are the determinants of CSR firm’s portfolios. In this paper I analyze the corporate management considers CSR as a tool of legitimacy through improving social and environmental conduct. This paper uses the 60 industrial companies listed on ASE which published annual reports in 2006 to 2010.

Different factors that have been employed in the literature to explain variation in the extent of corporate voluntary disclosure were used to test their validity within the CSR context. In this respect, theories such as agency, political economy, legitimacy, stakeholders and accountability approach are employed to explain variations in the extent of corporate social reporting in a sample of Jordanian companies.

The results of the analysis imply that companies that are expected to be large in size, age, maintaining growth and are highly leveraged are more likely to voluntary disclose social responsibility information. The result lends partial support to agency and political economy theories.

References


Investigating the Effect of Government Health Expenditure on HDI in Iran

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Human development is used as one of the most important indices to measure the level of countries development in recent decades. This study examines the effect of government health expenditure on human development index (HDI) by using the ordinary least squares method (OLS) over the period 1990-2009 in Iran. The results show a positive and significant relationship between government health expenditure and human development index. Also, Granger Causality Test indicates that there is no bilateral relationship between the government health expenditure and HDI in Iran.

Keywords: HDI, health expenditure, development.

JEL: I10, O20, O53

Introduction

In economic planning, human development is the main concern of the (as most objectives in planning for) developed and developing countries. Human capital is one of the factors affecting human development and has two main aspects: education and health. In studies that have been done in cross countries basis regarding economic growth and development, human capital in the most cases is considered as education and, less attention has been paid to the health. But in recent studies, health is not only considered as a component of human capital, but also, simultaneously and independently
health has entered into the field of the growth model and its effects.

Improvement in health results in human capital increase. This increase will happen through capital health accumulation, and health improvement through longevity and increased labor productivity. In turn these will result in human development. In studies of health and human development in different standards, different criteria for health are considered. These criteria can be cited, including government health expenditure.

The cost of governmental health expenses, same as government’s spending cost on education and human resources will improve quality and increase life expectancy and longevity. In other words, the government’s spending on health will result in promoting public health and health capital accumulation channel, and its impact on human capital and economic growth is affecting on human development. The purpose of this study is to examine the effect of government health expenditure on human development. On this basis, the question is: “How the government health expenditure has an impact on human development in Iran?” This question is asked to correspond to the assumption that government health expenditure has a significant positive effect on human development.

Therefore, in the next section, literature review will be on the health effects of human development. Then, a brief review on the experimental and theoretical studies is done for analyzing the relationship between health expenditure and human development. After that the model and data used in this study are discussed and model results are also summarized and conclusions will be at the end.

Literature Review

*Human Development*

Development is multi-dimensional process that involves changes in people, social structure, public attitudes and national institutions. Development process incorporates economic organizations and political and social systems.

Human development approach, at the first time, has stated by Amartya Sen and Mahbubul Haq in the 80 decade, it is telling that, the human development is the process of expanding the real freedoms that people enjoy it. This is general and comprehensive approach, and it is as needed to overcome the major factors for dependency, that are poverty and injustice,
poor economic opportunities, including social exclusion and neglect of public facilities. According to human development reports, human development is the process of expansion options for human that the most important of these include a long and healthy life, education, enjoyment of a good standard of living, more choices include political freedom, guaranteed human rights and dignity breath. In fact, we can say that human development has two aspects: One aspect is related to human capabilities, such as improved health, knowledge and skills and other aspects of their capabilities to the opportunities and benefits purposes, such as being active in political, social and cultural issues. (Gustav Ranis, 2004).

This approach insists on the front counting the people in the community and practice to the formation of human capabilities in areas such as health, knowledge, and meet basic needs and focuses on the ability to create jobs and increase prosperity for stresses.

UN nominated, decade of the 1990s, as human development decade and introduced longevity, knowledge and minimum income level as three human development key indexes.

Based on this index, countries are classified with high human development (Human Development Index greater than 0.8), countries with medium human development (in the range of indicators 0.8-0.5) and countries with low development (human development index of less than 0.5).

In year 2011 by United Nations Human Development Report, human development index has been calculated and published for 187 countries. In this report, 187 countries are ranked in the four categories in terms of human development, ranking 1 to 47 are countries with very high human development countries, ranking 48 to 94 are the countries with high human development, ranking from 95 to 141 are countries with average human development and ranking above 142 are as low human development countries. In this report, Iran has 88 ranks as human development Index among the sample studied countries.

As mentioned, human development index is include the following components:

1 - Life expectancy
2 - The adult literacy rate and enrollment ratio in education levels
3 - GDP per capital (ppp)

Any factor that may increase these three parts, will lead to promoting human development. In this study besides health expenditure effect on human
development, the other three variables: Mortality rates, per capita GDP growth rate, and elementary completion rate will discuss as control variables.

The assignment of control variables is taken with the following justifications:

Mortality rates show improvement in health status and life expectancy, as increasing longevity is due to increased components of human development index. Thus there is an inverse relationship between mortality rate and human development.

Per capita GDP is one of the indices of human development, much higher growth rate in this variable represents the increase in GDP and increase in human development, and it shows the positive and direct relationship between these two variables.

More and more growing completion rate for primary school is also indicate that the number of people entered the primary school courses and passed successfully; this variable also has direct and positive relationship with human development.

**Health expenditure**

In today’s world, by the enjoyment of health, human rights are inalienable, because improving the health status and providing better health services is one of the fundamental aspects of social and economic development. So investing in the health sector, like other social sectors, are considered among the infrastructure investments as the pattern of planned human resource development.

Health and health services can be considered as any other economic commodity and a durable commodity. All people are born with reserves of health; some people have less and some more. Health inventory like any other durable goods will be depreciated over the time. When adequate health inventory was reduced, the people efficiency is lost; this process is called depreciation of health capital. Therefore the natural life shows that the depreciation period is happening. Increased life expectancy in the last century shows that the rate of depreciation over time due to health within the health service has occurred. The individual health inventory will be the function of health expenditure.

So, we can say that health expenditure includes public and private health expenditure, its components is funds needed for health services
including treatment and prevention, plan future services for families and predicted emergency feeding.

Health Expenditure and Human Development

Health expenditure will improve human development through of a few channels: economic growth, reduce mortality rates and improve the learning process. Economic growth is the process of increases in capacity of economic generation over its time, which will raise income level and production. Health directly and indirectly affects economic growth. Health promotion makes human capital increase through capital health accumulation, and has direct effect on growth. On the other hand, health promotion improves labor productivity through increased longevity and reduced working days due to illness, and indirectly affects the production.

According to some economists, health expenditure will decrease the GDP since it diverts resources from productive investment. The new concept of human capital by Becker (1964) has opened another route to show health expenditure influence on GDP. In this new direction, health expenditures by improving health indicators will increase human capital inventory and GDP growth in countries.

It’s possible to say that, the main duct of health impact on the economic growth is due to health effect on labor productivity. As healthy workforce is more motivated and higher productivity, so if health expenditure improves public health, it can be leading to increased produced through efficiency improvements. Usually the final efficiency is concerned the factors such as individual characteristics (cognitive abilities, health, work, work time, and physical and mental abilities) factors of production (land inventory, capital, machinery, equipment and intermediate inputs) and technology. Health, as one of the inputs of productivity function, has a direct impact on efficiency of labors and as the result on workforce. Because more healthy people are more efficient with a certain measure of capital and other institutions, and probably the work done by them equal to their calories will be more as compared with patients.

As explained, the positive impact of health spending on economic growth is observed directly and indirectly and then the relationship between economic growth and human development can be examined.

“Economic growth is effective on human development if administered
properly. In the growth process, intermediate is necessary, since it will be as growing interest in people’s lives and human developments will be important at the whole economy levels. Economic growth provides the resources that produce a sustainable improvement in human development because economic growth by rising incomes, increases families and government circles of choices and their ability and will increase the level of human development” (Gustav Ranis, 2004).

Human development as the ultimate goal of human activity and is therefore among the objectives of the development process in other hand, economic growth is used as a representative and the display of social welfare. So by the human development index, economic growth increases has increased social welfare and human development.

Besides improvements in health manpower, increases life expectancy and decreases in mortality and as results Longevity and also acquire motivation for better study and skills, since the improvement of health conditions will increase the attractiveness of investment and education and training opportunities, and on the other side by increased ability to learn, people will be more susceptible to further education and skills. Therefore, increasing health expenditure will associated with improved ability to learn and increase longevity from this way it will promote human development.

As it explained, health expenditures will provide positive impact on human development through increased economic growth and reduction of mortality rate and improve the learning ability. Government health expenditure is as a whole of total health expenditure, so that a health is recognized as a public goods that the private sector have minor willing to invest in. Thus, government health spending has caused public health promotion and through specified channels will lead to human development.

**Research Background and Empirical Studies**

Opreana & Mihaiu, 2011, in a study entitled “Analysis of the relationship between health systems and human development levels in Europe” have shown that there is a correlation between health expenditure and human development. They have mentioned that life expectancy and longevity are as one component of the human development index, so there are strong correlation between health and attempts to make the health and human development. Also, Health expenditure in public and private sectors
were count in and concluded that in countries where private sector funding to further, efficiency of public health expenditure is larger. The findings of this study show that: The cost for the health will increase human development and human development itself will increase health promotion too. So there is bilateral relationship between health expenditure and human development.

Himanshu (2006), in a study examining the effects of education and income on health expenditure, Great Britain and Latin American experiences shows that to reduce mortality depends improve the standard and life is not associated with medical progress. Disastrous can be causes of poverty and ill health the resulting loss of income so significant improvements in health can help the people whom their daily earnings are less than a dollar. This research shows that increase in income and education will increase health expenditure. Health and treatment is not only a function of health care, but also the function of social and cultural development, economic factors, education and politics. So to raise the health status and quality of life should generally focus on the integration of social development, cultural needs, economical training.

Baldacci, Teresa (2003), in an article reviewed the cost effectiveness of public health and education and concluded that social programs like health care and education in general are associated with human development. Thus, government spending on these two should granted good results, although empirical studies have shown weak effects in both developed and developing countries.

Clovis, Nobuko (2011), in an article on health care expenditure in achieving the millennium development goals, concluded that market failure in providing health, social and personal savings, which is referred to as capital, provided government involvement in this important field. The UN Millennium Development also has a strong emphasis on development of health indicators. This has caused the supply of health and education needs to be put on the shoulders of government. In this research, positive and significant effect of government spending on health variables confirmed and the most important variable is the per capita income and that three-quarters of the development goals with the private sector and public health expenditure can be explained. Therefore proposed that developing countries to achieve the Millennium Development Goals should be increase consistent with their health expenditure per capita income and the proportion of the population
Data and Model

This study is a descriptive analysis survey of time series relationship between health expenditure and human development over the period 1990-2009 in Iran. This paper follows below design process model:

\[ \ln(HDI) = \alpha \ln(HEg) + \beta Gr + \eta PRr + \lambda DTr + \phi dumi \]

So that, HEg represent public health expenditure, Gr is growth rate of GDP per capita, DTr is total mortality rate, PRr is the primary school completion rate and HDI is the human development index. Dummy variable are also used in the design of the model and this variable reflects the global crisis of 2007.

It should be noted that data on human development index of UNDP and the government health expenditure data have been collected from the Statistical Yearbook. The data on mortality rates, primary school completion rates and per capita GDP growth rates have been extracted from the World Bank. Dummy variable for the crisis of 2007 is added to model, for more consistent of model with economic reality. The main characteristic of this crisis is reducing liquidity in the banking and credit system.

Iran cannot remain immune to these crises, in the years 2000 to 2010 economic growth decrease rate in Iran was equivalent to countries like UK and the United Arabic Emirates, Iran economic drop rates was even more than economic decrease rate of America’s economic who’s was the main victim in this crisis. This was the main reason on adding Dummy 2007 variable to the model.

Model Estimation Results

Variables stationary examined by using Dicky Fuller test, it shows that all variables in the 10% are stationary. GDP growth rate, mortality rate and primary school completion rate with intercept at this level make stationary but government health spending make stationary with intercept and trend. The results of this test are shown in Table 1.
Table 1: The test results of the ADF for the stationary of the model variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Lag</th>
<th>Intercept</th>
<th>Trend</th>
<th>Calculated ADF</th>
<th>10% Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government health expenditures</td>
<td>Without</td>
<td>with</td>
<td>with</td>
<td>-4.67</td>
<td>-3.32</td>
</tr>
<tr>
<td>Mortality rate</td>
<td>Without</td>
<td>with</td>
<td>Without</td>
<td>-4.68</td>
<td>-2.65</td>
</tr>
<tr>
<td>Completion rate for primary school</td>
<td>Without</td>
<td>with</td>
<td>Without</td>
<td>-2.81</td>
<td>-2.65</td>
</tr>
<tr>
<td>Per capita GDP growth rate</td>
<td>Without</td>
<td>with</td>
<td>Without</td>
<td>-3.01</td>
<td>-2.65</td>
</tr>
</tbody>
</table>

Source: Research Calculations

According to described equation, this model is estimated by using ordinary least squares. In this model, all estimated coefficients are statistically significant at 5% level so that all relevant control variables and main variables are statistically significant except dummy variable which is significant at 10% level.

According to table 2, based on the results it can be seen that the completion rate for primary school and per capita growth rate has a positive impact on Iran’s human development index with coefficients 0.006 and 0.014, respectively. Mortality rates has a significant and opposite relationship as indicators of human development. As it is also shown in the table 2, an increased of one unit mortality rate, human development will decrease by 0.13. It can be observed that Control variables effect have expected.

Table 2: Model estimations by ordinary least squares

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>T Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.7102*</td>
<td>-2.5922</td>
</tr>
<tr>
<td>Government health expenditures</td>
<td>0.17352*</td>
<td>2.0717</td>
</tr>
<tr>
<td>Mortality rate</td>
<td>-0.1305*</td>
<td>-5.1231</td>
</tr>
<tr>
<td>Completion rate for primary school</td>
<td>0.00686*</td>
<td>2.1890</td>
</tr>
<tr>
<td>Per capita GDP growth rate</td>
<td>0.01473*</td>
<td>2.9634</td>
</tr>
<tr>
<td>Dummy</td>
<td>0.0595**</td>
<td>1.7764</td>
</tr>
</tbody>
</table>
Calculations show that public health expenditures have positive and significant (+0.17) impact on human development. In other words, by increasing percentage of government expenditure on health, human development health increases at the level of 0.17 percent. The hypothesis of this research for the positive impact of health expenditures on human development can be confirmed and it shows the importance of budget spent by government on health. Since the D-W is 1.87, so the estimated equation isn't autocorrelation. The determination coefficient of 84% indicates that 84 percent of the dependent variable variation (human development) in the form of explanatory variables is explained by the presented linear model.

The Granger causality test results obtained as below and the optimal lag length is at 4, and as estimated test results zero hypothesis $H_0$: $\text{HEX}_g=0$ is rejected and the opposite hypothesis is accepted with the critical area and t-statistics at 5% level. So it can be concluded that health expenditure is effective and is cause of human development change. And every one percent increase in healthcare spending will promote human development by 0.17.

Also, estimation shows that hypothesis $H_0$: HDI=0 is approved at 5% level and is accepted so the human development cannot be agreed as the cause of health expenditure. As the results there is one-way relationship between human development and health expenditure and human development is established due to health expenditure. The results are presented in Table 3.

### Table 3: Granger causality

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Coefficients</th>
<th>Lag</th>
<th>$H_0$</th>
<th>P -Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>$\text{HEX}_g$</td>
<td>0.17</td>
<td>4</td>
<td>$\text{HEX}_g=0$</td>
<td>0.79</td>
</tr>
<tr>
<td>$\text{HEX}_g$</td>
<td>HDI</td>
<td>0.38</td>
<td>4</td>
<td>HDI=0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Research Calculation
Discussion

Granger causality test results indicate that there is one-way relationship between health expenditure and human development and by theoretical principles in this study; human development is due to health expenditure. The estimated coefficients of this model indicates that GDP per capita rates and primary school completion rates, have a positive impact and mortality rates have a negative impact on human development. The model was also estimated that government health expenditure index rate have positive impact affects on human development index. For analysis of this effect, health expenditure through the channel of human capital on economic growth has efficient effects on human development. Since increased health expenditure will improve labor productivity and increase the supply of work force and as the results increase productivity and economic growth that this variable growth is as important components of human development index. On the other hand increasing health expenditure is reducing mortality and increasing life expectancy, so by these channels it can be said that government health expenditure is effective on human development. Indeed, healthy people may have longer life and also can work better with higher production rate and more educational opportunities is granted for him since he is a rather educations cost to treat costs. All these have effects on the components of the human development index and causes promotion to the index. Calculations and estimates have also confirmed, “the promotion of health spending and expenditures (prevention and health services) to involves promote human development”

Conclusions

In this study, the ordinary least squares method is commonly used to assess the effect of health expenditure on human development. Government health expenditure is considered as public goods that invest in this sector. Indeed health expenditures are services that will be used to prevent disease and according to empirical studies and theoretical foundations and numerical calculations in this study positive and significant impact on human development has shown.

It is recommended that in spite of treated expenditure, a larger part of government budget allocate on health expenditures (prevention). It is recommended that the most portion of government budget spend on public
health improvement, public awareness, health promotion and development of role of active nongovernmental organizations (NGO) to the health. Hope to reach higher rating of human development through this compared to other countries. Other things can be done in this area:

1 - In future research two other approaches can be used. First one is investigating effects of human development on health and the second is examine the effects of human development and health effects of using the VAR methods.

2 - Review and analyze the relationship between health expenditure and human development in developing countries.

3 – By private sector important role in providing health and treat, it is recommended for future researches in the field of health and human development the part of private sector health expenditure that is important in preventing to be considered.

References

Returns to Schooling in Europe: Evidence From Quantile Regression on EU-SILC Data

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In this paper the effects of schooling on wage inequality across a group of European countries are examined. Using the latest available EU-SILC dataset, a positive relation between these two variables is found across the whole distribution by means of a quantile regression (QR) approach. Such effect is stronger effect at the highest quantiles than at the lowest. This result corroborates the possibility of an increase in the wage dispersion when higher educational attainments are achieved and it is found to be rather robust as showed by linear hypothesis tests. Finally, the country-specific results highlight that the OLS technique misleads relevant information over cross-countries heterogeneity in the impact of education on within group inequality at different points of the wage distribution compared to the QR approach.

Keywords: Returns to education; Wage inequality; Quantile regression; Europe

JEL Code: C14, I21, J31.

Introduction

Over the last two decades the increase in wage inequality between high-skilled and low-skilled workers became a relevant topic, especially in the European countries, and started stimulating several possible explanations from the economic literature. The Skill-Biased Technological Change (SBTC)
paradigm seems to be the chief explanation, but also other causes, such as the role and characteristics of labour market institutions (for instance, corporatism, centralization of the wage bargaining or minimum wages) and the international trade have been called1.

In particular, there is a wide consensus that schooling has a relevant impact on wage inequality across countries. Returns to education tend to be increasing over the wage distribution and this evidence is interpreted as a direct effect of education on within-groups inequality.

As a matter of fact, some empirical analysis have explored the gain effects of schooling over the entire wage distribution, by using not only different specifications of the mincerian equation, but several econometric procedures as well. In particular, since the seminal paper by Koenker and Basset (1978), quantile regression (QR) was adopted by many authors. It has been exploited both in surveys concerning single countries and in comparative studies. As to the former strand of empirical literature, Budría and Moro-Egido (2008) for Spain, Gosling et al. (2000) for UK are only some examples.

As to the latter strand, just a few papers have explored comparable cross-countries differences. This in-depth examination has been constrained by the use of older homogenized data sets, but has been also due to the greater availability of diverging data sets, as argued by Budria and Pereira (2005). With regard to the former point Barros, Prieto-Rodríguez and Vieira (2008) have examined the connections between education and wage across 14 European countries by using the European Community Household Panel data-set.

With regard to the latter, on the one hand, Budria and Pereira (2005) have evaluated how the impact of education on wage inequality has evolved over time in 9 European countries, covering a period ranging from 26 years in the case of Sweden (1974-2000) to 7 years in the case of Portugal (1993-2000) and by distinguishing for educational qualification. On the other hand, Martins and Pereira (2004, MP henceforth), using cross sectional data sets which refer to different years, ranging from 1991 in the case of Sweden to 1996 in the case of Netherlands, have shown that in 16 European countries higher education is associated with higher wage dispersion. Both these papers were completed under a framework of research projects2 where each country

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1 See among others Acemoglu (2002) with respect to the SBTC, Di Nardo et al. (1996) for the impact of labour market institutions and Wood (1995) for the role of the international trade.
2 The projects are the “Education and Wage Inequality in Europe” (EDWIN) for Budria and Pereira and the “Public Funding and Private Returns to Education” (PuRE) for MP.
team analyzed their own country different data set. However, they “assure that these data sources were as similar and thus comparable as possible” (MP, 2004 p.356). In this paper we apply a similar approach to 8 European countries, using the European Union Statistics on Income and Living Conditions inquiry (EU-SILC), the new European homogenized panel survey, widely considered an attractive source of information, as it adopts the same “community” questionnaire, thus obviously making comparisons across nations easier. More specifically, our primary purpose is to explore the potential for EU-SILC - that, to our knowledge, has never been used so far, in such a comparative analysis - to shed some light on the relationship between wage inequality and returns to schooling in Europe.

In particular, a couple of questions are relevant here: 1) to what extent can education be called to explain the behaviour of income inequality across European countries? 2) Is a semi-parametric approach – i.e. QR - more appropriate than the standard Ordinary Least Squared (OLS) in order to clear up this issue?

As outlined above, we try to answer these questions through the use of the last 2007 wave of the EU-SILC data set, available since march 2009 and which has succeeded the European Community Household Panel (ECHP) since 2005. The EU-SILC data set firstly provides two advantages with respect to the ECHP, namely: a) an update of indicators, and b) a larger cover of European countries. Secondly, it keeps the main advantage that ECHP had on other data sets: attaining comparability by exploiting common guidelines, definitions and procedures. Thus, through EU-SILC, one is able to evaluate possible similarities between a much higher number of European countries whose educational systems and labour market institutions are quite different. In particular the use of EU-SILC allows us to also include Poland, thus enabling – for the first time to our knowledge – the implementation of a comparison survey about returns to education between a new European Member State and a lot of old member States, by means of the same data-set.

To address these issues we apply the QR semi-parametric approach which seems more interesting, as well as more suitable, for it allows us to get a more precise picture of the dynamics of the dependent variable at different points of the distribution, rather than at the conditional mean. We also compare QR with OLS, in order to provide a cross countries comparable view. The paper demonstrates that there is a high cross-country heterogeneity in returns to education at different points of the wage distribution, which OLS
modelling of conditional average of a dependent variable completely fails to account for.

This empirical paper is organized as follows. The next section describes the data. Section 3 illustrates our econometric specification. Section 4 reports the results of the returns to education across European countries, both in terms of OLS and QR as well as a robustness check. In the Section 5 we show the robustness check, while the final section presents our main conclusions.

Data selection

Data are collected from the 2007 European Union Statistics on Income and Living Conditions (EU-SILC) wave for 6 out of our 8 countries\(^3\), the only ones having available data for our interest variables. EU-SILC is the new homogenized panel survey that has replaced ECHP, and actually covers EU-25 (old and new) member states. Similarly to ECHP, EU-SILC is an attractive source of information because it adopts the same “community” questionnaire used by the national data collection units in each included country, which obviously makes comparisons across nations easier. Furthermore, EU-SILC actually covers a larger and increasing number of European countries with respect to the ECHP.

We have focused our analysis on the personal file of EU-SILC\(^4\). In the 2007 wave 387 170 individuals from EU-25 countries were interviewed. 184 879 of them were males, 202 287 females. The two countries for which we extract data from the 2005 wave have interviews for 22 355 individuals, 10 793 of which are men. We chose to concentrate the survey on males aged between 25 and 65 working full-time: women were disregarded on account of potential selectivity biases\(^5\). Younger males were dropped because they are still in the “almost exclusively” educational period of their life, i.e. they are very likely enrolled in a secondary or tertiary course and at the same time do not perform any work activity. People who had missing or NA data on the educational variable were also dropped. Our dependent variable is the hourly (logarithmic) gross wage, available for 24 118 full-time working males aged between 25 and 65 for the 6

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3 For Greece and Belgium we used the 2005 wave. The time mismatch is not supposed to greatly weaken international comparisons as we deal with structural variables, i.e. values changing slowly between years.
4 A household data file is also available together with two more register file for household and individuals as well.
5 See Buchinsky (1998) to have an insight on methods developed to deal with selectivity biases.
countries of the 2007 wave and 3621 Belgian and Greek men of the 2005 wave. Thus our analysis focuses on 27,739 individuals altogether.

Table 1: Summary statistics

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Log hourly wage</td>
<td>2774</td>
<td>2.72</td>
<td>0.44</td>
<td>0.01</td>
<td>2.704103 2.737159</td>
</tr>
<tr>
<td>Austria</td>
<td>2007</td>
<td>edu</td>
<td>3280</td>
<td>13.90</td>
<td>2.72</td>
<td>0.05</td>
<td>13.80358 13.98971</td>
</tr>
<tr>
<td></td>
<td></td>
<td>exp</td>
<td>3259</td>
<td>23.54</td>
<td>10.14</td>
<td>0.18</td>
<td>23.19081 23.88744</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Log hourly wage</td>
<td>1754</td>
<td>2.78</td>
<td>0.37</td>
<td>0.01</td>
<td>2.76343  2.79843</td>
</tr>
<tr>
<td>Belgium</td>
<td>2005</td>
<td>edu</td>
<td>2234</td>
<td>13.91</td>
<td>4.10</td>
<td>0.09</td>
<td>13.74191 14.08172</td>
</tr>
<tr>
<td></td>
<td></td>
<td>exp</td>
<td>2232</td>
<td>20.23</td>
<td>10.62</td>
<td>0.22</td>
<td>19.78489 20.66672</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Log hourly wage</td>
<td>1867</td>
<td>2.03</td>
<td>0.41</td>
<td>0.01</td>
<td>2.009044 2.046668</td>
</tr>
<tr>
<td>Greece</td>
<td>2005</td>
<td>edu</td>
<td>3038</td>
<td>11.25</td>
<td>4.80</td>
<td>0.09</td>
<td>11.08325 11.42498</td>
</tr>
<tr>
<td></td>
<td></td>
<td>exp</td>
<td>3038</td>
<td>19.69</td>
<td>11.26</td>
<td>0.20</td>
<td>19.29304 20.09405</td>
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<td></td>
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<td>Log hourly wage</td>
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<td>3.06</td>
<td>0.54</td>
<td>0.01</td>
<td>3.033858 3.086896</td>
</tr>
<tr>
<td>Ireland</td>
<td>2007</td>
<td>edu</td>
<td>2172</td>
<td>12.49</td>
<td>4.79</td>
<td>0.10</td>
<td>12.28793 12.69089</td>
</tr>
<tr>
<td></td>
<td></td>
<td>exp</td>
<td>2100</td>
<td>25.76</td>
<td>11.87</td>
<td>0.26</td>
<td>25.25386 26.26995</td>
</tr>
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<td></td>
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<td>2.45</td>
<td>0.38</td>
<td>0.00</td>
<td>2.437701 2.454926</td>
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<tr>
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<td>2007</td>
<td>edu</td>
<td>10512</td>
<td>11.58</td>
<td>3.83</td>
<td>0.04</td>
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<td>0.52</td>
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<td>1.116841 1.144935</td>
</tr>
<tr>
<td>Poland</td>
<td>2007</td>
<td>edu</td>
<td>6862</td>
<td>13.12</td>
<td>3.21</td>
<td>0.04</td>
<td>13.03968 13.19174</td>
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<td></td>
<td></td>
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<td>6819</td>
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<td>10.93</td>
<td>0.13</td>
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<tr>
<td></td>
<td></td>
<td>Log hourly wage</td>
<td>1735</td>
<td>1.68</td>
<td>0.55</td>
<td>0.01</td>
<td>1.650772 1.702105</td>
</tr>
<tr>
<td>Portugal</td>
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<td>edu</td>
<td>2204</td>
<td>8.08</td>
<td>4.37</td>
<td>0.09</td>
<td>7.898257 8.263268</td>
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<tr>
<td></td>
<td></td>
<td>exp</td>
<td>2197</td>
<td>24.39</td>
<td>12.33</td>
<td>0.26</td>
<td>23.87838 24.90997</td>
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<td></td>
<td></td>
<td>Log hourly wage</td>
<td>5438</td>
<td>2.37</td>
<td>0.45</td>
<td>0.01</td>
<td>2.356271 2.38029</td>
</tr>
</tbody>
</table>
EU-SILC does have data for the highest educational attainment from which we have built up our first independent variable (schooling years) following the usual framework, i.e. by making use of the highest ISCED level of education attained by a male worker, and for each level assigning the legal minimum number of years typically required to achieve it\(^6\). Our second and third regressors are respectively the number of years spent in paid work and its squared: the former is regarded as being a proxy for individual experience while the latter takes account of possible non linearities. The summary statistics of these variables are shown in Table 1, while in the appendix the figures concerning the link between ISCED levels and monthly gross income for all of our 8 countries are reported.

**Econometric specification: OLS versus quantile regression**

The first equation has the following simple form:

\[
h \ w_i = \alpha_i + \beta_i \text{edu} + \gamma_i \text{exp} + \delta_i \text{exp}^2 + \varepsilon_i 
\]

(1)

The equation (1) is solved through a classic OLS method, based on the mean of the conditional distribution of the dependent variable. As is well known, it implicitly assumes that the impact of the regressors along that conditional distribution are irrelevant. This fact is referred to as a pure location shift. In other words, the x’s are unable to cause a scale effect or any other consequence on the distributional shape. But as covariates may influence the conditional distribution of the response in many other ways, we are willing to estimate the whole distribution of the conditional quantiles of the dependent variable, and to be able to study the influence of the regressors on its shape, we do this performing a quantile regression (QR), which has the following functional form (Koenker & Basset, 1978):

---

6 Those who reached only an ISCED 1 grade have been given 5 years of schooling; 8 years of school have been assigned to those with an ISCED 2 grade; 13 years to those with an ISCED 3; 14 to people who attained an ISCED 4 grade and 18 years to those who reached an ISCED 5.
The equation (2) is normally written as:

$$\min_{\beta \in \mathbb{R}^k} \sum_i \rho_\theta \left( h \ w_i - \alpha_\theta - \beta_\theta \text{edu}_i - \gamma_\theta \exp_i - \delta_\theta \exp_i^2 \right)$$

(3)

where $\tilde{\rho}_\varepsilon(z) = \varepsilon(z)$ if $z \geq 0$, or $\tilde{\rho}_\varepsilon(z) = (\varepsilon(z) - 1)\varepsilon(z)$ if $z < 0$.

This problem is solved using linear programming methods. Standard errors for the vector of coefficients are obtainable by using a bootstrap procedure described in Buchinsky (1998).

The quantile regression has other advantages which can be summarized as the following (Buchinsky, 1998): i) it provides robust estimates of the coefficient vector, i.e. estimates insensitive to outliers of the dependent variable; ii) when error terms are not normally distributed, estimators provided by the quantile regression can be more efficient than OLS estimators; iii) if different estimates for several quantiles are observed, the influence change of the covariates on the $y$ variable along the whole conditional distribution can be easily understood.

Results

In Table 2 we show OLS returns as well as conditional returns at 19 representative quantiles: 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90 and 0.95, which are denoted $\theta_5$, $\theta_{10}$, $\theta_{15}$, $\theta_{20}$, $\theta_{25}$, $\theta_{30}$, $\theta_{35}$, $\theta_{40}$, $\theta_{45}$, $\theta_{50}$, $\theta_{55}$, $\theta_{60}$, $\theta_{65}$, $\theta_{70}$, $\theta_{75}$, $\theta_{80}$, $\theta_{85}$, $\theta_{90}$ and $\theta_{95}$ henceforth.

Table 2: Conditional returns to schooling - OLS and QR.

<table>
<thead>
<tr>
<th>Quantile</th>
<th>Austria</th>
<th>Belgium</th>
<th>Spain</th>
<th>Greece</th>
<th>Ireland</th>
<th>Italy</th>
<th>Poland</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\theta=.05$</td>
<td>0.055</td>
<td>0.035</td>
<td>0.031</td>
<td>0.023</td>
<td>0.036</td>
<td>0.030</td>
<td>0.033</td>
<td>0.036</td>
</tr>
<tr>
<td></td>
<td>9.3</td>
<td>8.49</td>
<td>11.5</td>
<td>6.22</td>
<td>2.75</td>
<td>10.2</td>
<td>3.63</td>
<td>5.9</td>
</tr>
<tr>
<td>$\theta$</td>
<td>0.050</td>
<td>0.033</td>
<td>0.030</td>
<td>0.028</td>
<td>0.042</td>
<td>0.027</td>
<td>0.042</td>
<td>0.044</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>11.74</td>
<td>10.12</td>
<td>15.16</td>
<td>7.87</td>
<td>7.2</td>
<td>14.35</td>
<td>9.27</td>
<td>11.06</td>
</tr>
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<td>0.029</td>
<td>0.048</td>
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<tr>
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<td>0.036</td>
<td>0.035</td>
<td>0.034</td>
<td>0.047</td>
<td>0.029</td>
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<tr>
<td></td>
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<td>23.15</td>
<td>22.87</td>
<td>31.93</td>
</tr>
<tr>
<td>$\theta$</td>
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<td>0.037</td>
<td>0.037</td>
<td>0.034</td>
<td>0.049</td>
<td>0.030</td>
<td>0.054</td>
<td>0.069</td>
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<tr>
<td></td>
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<td>22.51</td>
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<td>0.040</td>
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<td>0.049</td>
<td>0.031</td>
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<td>22.79</td>
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<td>10.74</td>
<td>20.87</td>
<td>19.46</td>
<td>38.47</td>
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<td>0.041</td>
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<td>0.030</td>
<td>0.060</td>
<td>0.078</td>
</tr>
<tr>
<td></td>
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<td>0.054</td>
<td>0.032</td>
<td>0.062</td>
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</tr>
<tr>
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<td>28.27</td>
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<td>0.053</td>
<td>0.034</td>
<td>0.064</td>
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<tr>
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<td>48.01</td>
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<td>0.044</td>
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<td>0.054</td>
<td>0.035</td>
<td>0.065</td>
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<td>12.94</td>
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<td>0.057</td>
<td>0.040</td>
<td>0.064</td>
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<tr>
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<td>27.56</td>
<td>31.08</td>
<td>31.09</td>
</tr>
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<td>$\theta$</td>
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<td>0.050</td>
<td>0.035</td>
<td>0.057</td>
<td>0.043</td>
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<td>0.089</td>
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<tr>
<td></td>
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<td>0.051</td>
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<td>25.36</td>
<td>26.99</td>
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</tr>
<tr>
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<td>0.054</td>
<td>0.035</td>
<td>0.058</td>
<td>0.050</td>
<td>0.063</td>
<td>0.093</td>
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<tr>
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<td>13.77</td>
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<td>11.05</td>
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<td>0.055</td>
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<td>13.35</td>
<td>14.65</td>
<td>23.84</td>
<td>27.77</td>
<td>27.41</td>
</tr>
<tr>
<td>$\theta$</td>
<td>0.078</td>
<td>0.057</td>
<td>0.055</td>
<td>0.041</td>
<td>0.066</td>
<td>0.059</td>
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<tr>
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<td>19.97</td>
<td>31.01</td>
<td>9.6</td>
<td>20.53</td>
<td>29.08</td>
<td>16.57</td>
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</table>
Returns to Schooling in Europe: Evidence From Quantile Regression on EU-SILC Data

<table>
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<tr>
<th></th>
<th>0.085</th>
<th>0.061</th>
<th>0.061</th>
<th>0.044</th>
<th>0.075</th>
<th>0.067</th>
<th>0.076</th>
<th>0.088</th>
</tr>
</thead>
<tbody>
<tr>
<td>θ=.95</td>
<td>17.8</td>
<td>11.52</td>
<td>39.97</td>
<td>7.95</td>
<td>12.54</td>
<td>24.86</td>
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<td>0.045</td>
<td>0.035</td>
<td>0.055</td>
<td>0.043</td>
<td>0.063</td>
<td>0.079</td>
</tr>
<tr>
<td></td>
<td>22.34</td>
<td>26.33</td>
<td>40.93</td>
<td>19.54</td>
<td>20.44</td>
<td>40.34</td>
<td>29.19</td>
<td>31.26</td>
</tr>
<tr>
<td>θ95-θ5</td>
<td>0.030</td>
<td>0.026</td>
<td>0.030</td>
<td>0.021</td>
<td>0.039</td>
<td>0.037</td>
<td>0.043</td>
<td>0.052</td>
</tr>
<tr>
<td>θ90-θ10</td>
<td>0.028</td>
<td>0.024</td>
<td>0.025</td>
<td>0.013</td>
<td>0.024</td>
<td>0.032</td>
<td>0.026</td>
<td>0.044</td>
</tr>
<tr>
<td>θ75-θ25</td>
<td>0.019</td>
<td>0.017</td>
<td>0.014</td>
<td>0.000</td>
<td>0.009</td>
<td>0.017</td>
<td>0.010</td>
<td>0.023</td>
</tr>
<tr>
<td>Obs.</td>
<td>2756</td>
<td>1744</td>
<td>5350</td>
<td>1867</td>
<td>1522</td>
<td>7324</td>
<td>5236</td>
<td>1702</td>
</tr>
</tbody>
</table>

Note. Data for Austria, Spain, Ireland, Italy, Poland and Portugal are from cross sectional UDB SILC 2007 – version 1 of March 2009; Belgium and Greece from EU-SILC 2005. All coefficient significants at p<0.001, t-statistics in italics.

Both OLS and QR estimated coefficients are positive and significant at the 1% level in every country. Differences between percentiles of the wage distribution computed for 6 different extremes taken by twos (θ95-θ5, θ90-θ10 and θ75-θ25) are also reported. In fig. 1 we rank countries by their OLS estimates and compare each country both in terms of OLS coefficients and of differences between percentiles at the levels of the wage distribution specified above. In terms of OLS returns of education, Portugal – in line with previous studies - shows the highest coefficient (8%), while Austria, Poland, Ireland, Belgium and Spain exhibit values respectively equal to 6.7%, 6.3%, 5.5%, 4.9% and 4.6%. At the bottom of the wage distribution Greece displays the lowest value (3.5%), while Italy shows a slightly higher coefficient (4.3%).

![Fig 1: Returns to schooling - OLS and difference between percentiles](image-url)
In terms of differences between percentiles computed at the 6 considered extremes, it seems useful to us to remind and make clear that, in every country, they are decreasing with the distance between percentiles: in other words, in all of the countries inspected $\theta_{95-05}$ ($\theta_{75-025}$) is higher (lower) than $\theta_{90-010}$. Similarly to MP which found that Portugal was top ranked both in terms of OLS and difference between the ninth and the first decile, our estimates show that the country having the greatest OLS coefficient and the largest spreads between percentiles, for all of the 3 comparisons, is still Portugal ($0.0513$ for $\theta_{95-05}$, $0.0447$ for $\theta_{90-010}$ and $0.0193$ for $\theta_{75-025}$). The same situation occurs for Greece at the bottom of the distribution, which is also the only country with no difference between the 75th and 25th quantiles ($2.1\%$ for $\theta_{95-05}$, $1.3\%$ for $\theta_{90-010}$ and $0.0\%$ for $\theta_{75-025}$). Austria has a particular evidence: in fact, it displays a high OLS returns on education but quite low differences between the percentiles of the wage distribution. Poland shows both relatively high return on education and high inter-quantiles differences, while in Italy a low OLS coefficient is associated to a relatively high inequality between different percentiles of the wage distribution.

It is clear that OLS technique really misleads relevant information about cross-counties differences in the impact of education on within group inequality at different points of the wage distribution. This arises from the fig 2a-c which compares the OLS results with the QR estimates at different points of the wage distribution. There is a clear evidence that wages increase with education and this is true across the whole distribution. Furthermore, this effect is generally more important at the highest quantiles of the distribution than at the lowest, implying that schooling increases wage dispersion. Also Greece, which was found the only exception by MP, follows the same pattern. It can be further noted that in MP the data for Austria, Greece and Italy were based on net wages, “which troubles a full comparison with the remaining countries” (MP, p. 365).

Despite this common pattern across countries, fig. 2a-c puts also on different paths across countries from the bottom to the top of the distribution. As to Portugal, it can be noted an increasing distance from Spain when passing from the lowest to the highest percentiles. This gap decreases in the last 4 quantiles. Indeed in Portugal highest returns to education are obtained at the 80th percentile ($9.2\%$), and after that they slightly decrease. On the other hand Spain shows a more bounceless (and weaker) growth. Belgium follows a path similar to that of Spain, with a small decrease from the 5th to the 10th quantile.
Fig 2-b makes clear that Poland has a changing path over the wage distribution: returns to education of Polish adult male workers trace a curve which is concave in the lower half of it and then convex, with a couple of jumps (around 1%) from the 5th to the 10th quantile and from the 90th to the 95th. Ireland displays a similar but somewhat flatter path, with the same jumps at the two extremes of the wage distribution. In Austria, returns to schooling of adult full-time working men are on the contrary decreasing in the first 4 quantiles of the distribution and after that almost always increasing.

In fig 2-c a flat path all around the OLS returns to schooling is found for Greece: similarly to Poland and Ireland, on the left half QR estimates lay on a concave curve, while on the right half they lay on a convex one, but unlike them they are much more lower: indeed, Greece shows the lowest return to schooling, at the first quantile (2.3%). As for Italy, after a decreasing in returns from the first to the second percentile, the values are almost always increasing. It is also evident a convex path since the 50th quantile.

Robustness check

Further, in addition to MP, in Table 3 we test whether gaps between quantile coefficients estimated in our QR are statistically significant.

<table>
<thead>
<tr>
<th>Countries</th>
<th>( \theta_{95-05}=0 )</th>
<th>( \theta_{90-010}=0 )</th>
<th>( \theta_{75-025}=0 )</th>
<th>All quantiles equal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>( F(1, 2752) = 6.34 )</td>
<td>( F(1, 2752) = 34.46 )</td>
<td>( F(1, 2752) = 12.67 )</td>
<td>( F(9, 2752) = 32.94 )</td>
</tr>
<tr>
<td></td>
<td>Prob &gt; F = 0.0119</td>
<td>Prob &gt; F = 0.0000</td>
<td>Prob &gt; F = 0.0004</td>
<td>Prob &gt; F = 0.0000</td>
</tr>
<tr>
<td>Belgium</td>
<td>( F(1, 1740) = 15.16 )</td>
<td>( F(1, 1740) = 39.17 )</td>
<td>( F(1, 1740) = 33.59 )</td>
<td>( F(9, 1740) = 6.86 )</td>
</tr>
<tr>
<td></td>
<td>Prob &gt; F = 0.0001</td>
<td>Prob &gt; F = 0.0000</td>
<td>Prob &gt; F = 0.0000</td>
<td>Prob &gt; F = 0.0000</td>
</tr>
<tr>
<td>Spain</td>
<td>( F(1, 5346) = 96.45 )</td>
<td>( F(1, 5346) = 115.77 )</td>
<td>( F(1, 5346) = 74.07 )</td>
<td>( F(9, 5346) = 217.83 )</td>
</tr>
<tr>
<td></td>
<td>Prob &gt; F = 0.0000</td>
<td>Prob &gt; F = 0.0000</td>
<td>Prob &gt; F = 0.0000</td>
<td>Prob &gt; F = 0.0000</td>
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</tbody>
</table>
The test has been carried out with respect to the three spreads considered in the paper ($\theta_{95-05}=0$, $\theta_{90-10}=0$ and $\theta_{75-25}=0$) and to all quantiles. More specifically, p-values are obtained through a bootstrapped variance-covariance matrix that includes between quantiles blocks. The results indicate that the first linear hypothesis ($\theta_{95-05}=0$) is found to be significant at all levels of confidence for almost each of the 8 countries. Only Austria displays a weaker difference, as the associated p-value is not significant at the 1% confidence level. As to the second linear hypothesis ($\theta_{90-10}=0$), overall significance is found. As expected, significance decreases when the third linear hypothesis ($\theta_{75-25}=0$) is analysed: in particular it is detected not significant at the 1% confidence level for Ireland and Poland, while it is not significant for any confidence level in Greece. This result is absolutely straightforward if one observes the precise equality between the $\theta_{75}$ and $\theta_{25}$ estimated coefficients of returns to education for greek full-time working males (3.4% at both percentiles). Finally, the joint equality of coefficients at all quantiles is rejected as well.
Conclusions

In this paper we have applied a QR technique to the last 2007 wave of the EU-SILC data set, in order to explore the connection between education and wage inequality in 8 European countries. Our comparative study gives a contribution to the “little comparable evidence for Europe” (Budria and Pereira 2005, p.1). We found that wages increase with education and this is true across the whole distribution. Furthermore, this effect is generally more important at the highest quantiles of the distribution than at the lowest, implying that schooling increases wage dispersion. This evidence is found to be rather robust as showed through tests of linear hypothesis carried out on 3 particular differences between estimated quantile coefficients of the returns to education, as well as through a joint test of equivalence for all of the estimated quantile coefficients.

We have so corroborated the idea that, although coefficients obtained by OLS estimates are substantially in line with the those achieved through QR, OLS technique really misleads relevant information about cross-countries differences in the impact of education on within group inequality at different points of the wage distribution.

Hence we confirm that a semi-parametric QR approach is more interesting, as well as more appropriate, because it measures the wage effect of education at different quantiles, thus describing relevant cross-countries changes or bounces not only in the location, but also in the shape of the distribution.

Our results may be driven by several, arguably not alternative, explanations. In particular the increasing in the education premia over the wage distribution, which in this paper is confirmed to be a common characteristic across European labour markets - although with a relevant cross-countries heterogeneity - is fully compatible with the SBTC theory. Nevertheless other explanations such the increasing international trade, the corporatism/centralization of the wage bargaining, the presence of a minimum wage or the unobserved workers’ ability may also activate this process. We leave all of these explanations to further investigation: they need to be examined in more an accurate detail within each European country, by taking its own economic structure into consideration.
Acknowledgements

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References

Tourism Organization and Coordination in Australia and the Managerial Strategy for Tourism Development

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This paper presents synthetically the organisation of tourism activities in Australia, harmoniously integrated within the functional unit of the economy, as well as the relations between the components of this system, so that they function as real motors of accomplishing the national strategy of tourism development. This paper also deals with sustainable tourism and tourism ecolabelling programs in Australia.

The opinions expressed are based on the research of the cited bibliographic sources and the interpretation of current information, taken from the websites of some reliable organizations (Tourism Australia, Australian Bureau of Statistics). Primary statistics were taken from Tourism Research Australia (TRA), Australian Bureau of Statistics (ABS), United Nations World Tourism Organization (UNWTO) and Tourism Satellite Account.

This study may be extended through a similar approach of tourism industry’ organization and tourism development strategy in other regions with great tourism potential, using relevant comparative analyses thereafter.

Keywords: tourism, management, strategy, sustainable tourism, ecolabelling

Introduction

Tourism management is not limited to management activities in tourism and hospitality services, but is closely connected to all major functions, processes and procedures that are practiced in various areas related to tourism as a system. Tourism management involves the functions of planning, organizing, coordinating, training and monitoring-evaluating at all
Tourism should be integrated into the functional unit of the economy. In the macroeconomic sense, tourism organization implies the existence of an appropriate framework, succession and networking of its components, which ensures the optimal functioning of the system. Statistics demonstrate the economic importance of this sector in the use of labor, exports and imports, while governments are increasingly involved, supporting tourism, from their growing need for capital.

At present, the tourism market is characterized by new trends (UNWTO):

• rapid changes in production and consumption of tourist services;
• a greater competitiveness and the emergence of new tourist destinations;
• faster and more accessible (in terms of cost) means of transportation;
• new marketing strategies and tools, new information technologies;
• a new approach to quality.

Literature review

Considerations on tourism organizing

The unitary, coherent, effective evolution of tourism, as any other field of activity, requires an appropriate institutional framework, a set of links with clearly defined attributions, a system of functional relations between them, and an adequate information system. The features and heterogeneous content, the dynamism and dependence on other sectors of the economy, the number of participants in developing and selling holidays, give specific features to tourism organization (organizational structures, forms of integration, role of state, supply chain of tourism products) [1].

The tourism organization is structured into three hierarchical levels: the central body (coordinator), the regional (local) organizations and the sectorial organizations [2].

In most countries, tourism activity is coordinated nationally by a central body whose functions depend on the development and importance of tourism in that economy. This central body may be synonymous with the national administration and often correlated with the international bodies and their structures. Its primary functions are: to coordinate tourism activities nationally, to draft the strategy of tourism development, to promote tourism
domestically and internationally, to initiate and promote specific laws and regulations, to be representative within international bodies.

Regional organizations develop and coordinate the local tourism strategy (in collaboration with municipalities), carry out tourism marketing - by providing information services and using a variety of promotional activities. These are also known as “organizations on destinations”, resorts, and tourist areas [3]. The regional organizations generally have functional autonomy and their own budgets, such as non-profit organizations, associations and foundations. They may collaborate and form nationwide networks.

The sectorial organizations constitute the basic cell of the tourism system, represented by companies or associations, direct manufacturers of holidays and tourism service providers. They are specialized in different links of the tourism product distribution chain, such as hotel units, catering facilities, transport agencies, tour operators, promotion offices, professional training centers.

Organizing tourism activities currently tends toward decentralization, interest groups are increasingly involved in tourism policy and tourism development and competitiveness concerns have become major objectives for the national tourism agencies and strategic objectives for the regional tourism organizations.

The systematic and permanent information about supply and demand in tourist (national, regional, local) destinations are essential in achieving an effective tourism policy. The legislative, organizational and administrative measures represent the institutional support necessary to carry out tourism activities. The organizations or bodies involved in tourism belong to the public or private sector, as companies with international, national or regional (local) business or professional associations.

**General considerations on tourism management strategy and sustainable tourism**

Tourism development requires a focus on the environment, the conservation and development of its quality in touristic areas, as well as deep analyses of tourism impact on the environment, in order to use touristic resources rationally [4].

The concept of “sustainable tourism” was defined at the UN Conference on Environment and Development (Rio de Janeiro, 1992): “the sustainable tourism development represents all forms of tourism development, tourism
management and marketing, that respect the natural, social, and economic integrity of the environment, using the natural and cultural resources for the benefit of present and future generations” [5].

A sustainable tourism policy should ensure environmental, economic, social and cultural sustainable operation at all levels, according to the needs of endogenous and exogenous use. From planning and development of tourist infrastructure and ending with marketing, all tourist operations should consider sustainable criteria from the economic, social, cultural and environmental points of view.

Ecotourism, as the main form of sustainable tourism, should provide: optimal and sustainable exploitation of resources and environment, economic and social benefits for the resident population; compatibility between local people and tourists; and interest in sustainable development. Therefore, when applying properly its basic principles, ecotourism should lead to careful sizing flow of tourists and tourist behavior modeling, establishing a tolerance threshold supported by the local population [6].

The strategic planning is the accurate and in advance inventory and calculation of most advantageous strategies in various evolution hypotheses. A key to a successful strategy is the ability to change plans and structures rapidly [7].

In planning, development and management of sustainable tourism at regional or local level, there should be a partnership between the tourism industry represented by tourism businesses’ owners, environment with its defenders, local community with its residents, stakeholders, local leaders and local authorities. Such a partnership, by working together interactively and without prejudice, will lead to a sustainable and effective tourism, a better life quality for the local community, environment and touristic resources protection, and reasonable benefits for the tourism industry [8].

Ecolabels are certifications or accreditation schemes for products or services according to the environmental standards. These are run by government agencies, voluntary organizations or companies. There is a large variety of ecolabels and tourism certification schemes, such as those for tourist spots, certain tourism activities or tourist destinations. An ecolabel refers to the quality or “green” character of a tourist product or tourist destination.

The ecolabelling systems in tourism address to tourism service providers such as accommodation facilities, catering, tour operators, transport companies, tourism associations and so on, regarding environment performance of companies, businesses or destinations, product quality or social
responsibility. The ecolabelling programs covers three aspects: environmental, socio-cultural and economic. From the environmental point of view, the use of ecolabels and ecolabelling systems in the tourism industry leads to a greater awareness among tourists and local communities, but also to a better protection of the local environment.

Most ecocertification programs in tourism are run by government agencies or organizations with government involvement. Therefore, UNWTO supports governments and stakeholders in ecolabel implementation, verification and granting nationally. UNWTO also provides consulting services, marketing and communication for those interested and funds to obtain tourism ecocertification. There are over 500 ecolabels and ecocertification in the world, but some are applied globally: NEAP, ECO Certification Program.

Tourism organization and coordination in Australia

The tourism industry is an important economic sector of Australia, contributing $34 billion annually to GDP, 9% of exports and half a million people. With an export value exceeding $23 billion, tourism is the largest service export sector of Australia [9]. Given Australia’s geographical position, these indicators demonstrate the outstanding achievements of the tourism industry in a global market of tourism, characterized by a fierce competition.

The tourism industry consists of about 280,000 companies providing a wide range of tourist services (from accommodation, restaurants, casinos, tour operators, travel agents, travel agencies, transport companies, commercial and educational units). The tourism industry relies on a chain of suppliers which generate significant multiplier economic effects. Every dollar spent on tourism generates other 91 cents in other parts of the economy (this value is above the multipliers from other economic sectors such as mining, agriculture and financial services).

Australian Government offers a direct and substantial support (hundred million dollars) for tourism development. All governmental hierarchic levels support tourism industry, Australians wishing to show the world that “nothing compares to Australia”. In addition, internally, Australia has benefited from the economic stimulus package offered by the Commonwealth Government in response to the global financial crisis.

Organization and coordination are the engines to accomplish the objectives of the national tourism strategy in Australia. Tourism is an economic
sector that involves a network of collaborating organizations, as Figure 1 shows.

**Figure 1:** The organizational structure of tourism in Australia – model of complex, functional, cohesive, cooperation and relational structure (processed from the *National Long-Term Tourism Strategy*, Australian Government, Department of Resources, Energy and Tourism [10])

In Australia, this network consists largely of a national tourism organization, regional tourism organizations and tour operators and it may be considered a model of organizational structure of tourism, as it is focused on increasing the efficiency of the sector, through good knowledge of stakeholders in tourism and the relations between them.

The Department of Resources, Energy and Tourism (RET) of the Commonwealth Government is involved in these activities, aiming at improving international relations between governments, through a series of bilateral agreements and participation in international tourism forums (such as APEC.
Asia-Pacific Economic Cooperation, Organization for Economic Cooperation and Development, and UNWTO). This involvement reflects the importance of tourism in international trade and world market. Also RET assists the tourism sector by providing information such as constantly updated research, statistics and targets.

Tourism Ministers Council (TMC) is a strong governmental structure that connects stakeholders in the tourism industry, focusing on the productive capacity of industry and tourism destination marketing. It also directs the Commonwealth Government, Australian states and territories, as well as the tourism industry on key priorities. TMC is actively involved in all tourism issues; for example, the tourism ministers are in charge of the entire portfolio, from planning, control, accreditation, to infrastructure development, professional development labor, environmental management and involvement of indigenous people in the tourism industry. TMC appoints working groups for specific issues on a warrant. These working groups include relevant operators in the tourism industry, government and the government agency Tourism Australia. Tourism ministers’ meetings focus on monitoring the progress of implementation of the national tourism strategy and strategic direction for the tourism industry. The tourism ministers are supported by the Australian Permanent Council for Tourism (TMC, ASCOT). Table 1 shows Australia's Tourism Ministers, their roles and jurisdictions.

<table>
<thead>
<tr>
<th>Tourism Minister</th>
<th>Role</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Hon Martin Ferguson AM MP</td>
<td>Minister for Tourism</td>
<td>Commonwealth</td>
</tr>
<tr>
<td>The Hon Louise Asher MLA</td>
<td>Minister for Tourism and Major Events</td>
<td>Victoria</td>
</tr>
<tr>
<td>Mr Andrew Barr MLA</td>
<td>Deputy Chief Minister Minister for Tourism, Sport and Recreation</td>
<td>Australian Capital Territory</td>
</tr>
<tr>
<td>The Hon Jann Stuckey MP</td>
<td>Minister for Tourism, Major Events, Small Business and Commonwealth Games</td>
<td>Queensland</td>
</tr>
<tr>
<td>The Hon Dr Kim Hames MLA</td>
<td>Deputy Premier Minister for Tourism</td>
<td>Western Australia</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>State/Region</td>
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</tr>
<tr>
<td>The Hon Gail Gago MLC</td>
<td>Minister for Tourism</td>
<td>South Australia</td>
</tr>
<tr>
<td>The Hon George Souris MP</td>
<td>Minister for Tourism</td>
<td>New South Wales</td>
</tr>
<tr>
<td>The Hon Scott Bacon MP</td>
<td>Minister for Tourism</td>
<td>Tasmania</td>
</tr>
<tr>
<td>The Hon Malarndirri Barbara Anne McCarthy MLA</td>
<td>Minister for Tourism</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>The Hon John Key</td>
<td>Prime Minister, Minister for Tourism</td>
<td>New Zealand</td>
</tr>
<tr>
<td>The Hon Chris Tremain</td>
<td>Associate Minister for Tourism</td>
<td>New Zealand</td>
</tr>
<tr>
<td>The Hon Charles Abel MP</td>
<td>Minister for Culture and Tourism</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>The Hon Andre Nobbs MLA</td>
<td>Minister for Tourism</td>
<td>Norfolk Island</td>
</tr>
</tbody>
</table>

*(table source: Australian Government, Department of Resources, Energy and Tourism [11])*

Each Australian state and territory has its own tourism government agency (Australia Capital Tourism, Tourism Tasmania, Tourism New South Wales, Tourism Victoria, Tourism Northern Territory, Tourism Western Australia, Tourism Queensland, South Australian Tourism Commission) working with the tourism industry. The role of state tourism organizations (STOs) is to support sustainable development and marketing of tourist destinations in the respective state, to attract visitors.

The structure of the tourism industry in Australia, on levels of involvement and responsibility, is shown in Table 2.

The government agency Tourism Australia (TA) has an experienced management, focused on tourism industry and prior tourist markets. Its actions include cooperation between national and regional tourism organizations and the private sector, aimed at increasing the number of tourists, their expenditure and the number of jobs in tourism. The leadership of Tourism Australia works closely with stakeholders and local governments to develop the tourism industry, promotes quality standards in tourism and represents Australian tourism brand internationally.

Tourism Australia is the Australian government agency responsible for tourism marketing domestically and internationally, attracting foreign tourists...
to visit Australia, and encouraging Australians to travel in their own country for both leisure and business. This organization is also engaged in a number of activities related to promotion, media programs, commerce and industry, consumer promotions, online communication and market research. Its role is:

- to influence tourists to travel to Australia, in other words to increase demand for Australia as a tourist destination;
- to increase the economic benefits of tourism and strengthen the travel distribution system;
- to contribute to the development of sustainable tourism in Australia by market research, commerce development and research activities.

Another mission of the Tourism Australia is implementing, together with other organizations, the new strategic approach “Tourism 2020”, which aims at increasing tourism receipts to 140 billion dollars by the end of this decade.

The regional tourism organizations (RTOs) establish and promote quality tourism experiences, implementing strategies to maximize the tourism potential in the respective region. The Australian Regional Tourism Network is an organization representing tourism practitioners regionally.

Table 2: The structure of tourism industry in Australia

<table>
<thead>
<tr>
<th>NATIONAL GOVERNMENT</th>
<th>STATE GOVERNMENT</th>
<th>INDUSTRIAL ORGANIZATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism Australia (TA)</td>
<td>Tourism Victoria (TV)</td>
<td></td>
</tr>
<tr>
<td>Government agency that promotes Australia as a tourism destination.</td>
<td>Responsible for tourism development and marketing domestically and internationally for Victoria state.</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Tourism Alliance Council of Tourism Industry Victoria</th>
<th>The most important industrial organizations of counseling and supporting sustainable and professional tourism.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MARKETING COOPERATIVES</strong></td>
<td>Strategic marketing activities to sell holidays on international tourist markets.</td>
</tr>
<tr>
<td>Great Southern Touring Route (GSTR) Melbourne&amp;Surroundings</td>
<td></td>
</tr>
<tr>
<td><strong>CAMPAIGN COMMITTEE</strong></td>
<td>Marketing activities for the region Ocean Road.</td>
</tr>
<tr>
<td>Great Ocean Road Marketing (GORM)</td>
<td></td>
</tr>
<tr>
<td><strong>REGIONAL TOURISM ASSOCIATIONS</strong></td>
<td>Implements business strategic plans for tourism development in the region Geelong Otway.</td>
</tr>
<tr>
<td>Geelong Otway Tourism (GOT)</td>
<td></td>
</tr>
<tr>
<td><strong>LOCAL TOURISM ASSOCIATIONS</strong></td>
<td>Local tourism businesses whose purpose is to deliver tourist services locally.</td>
</tr>
<tr>
<td>Geelong by the Bay Tourism (GBTB)</td>
<td></td>
</tr>
<tr>
<td>Bellarine Tourism (BT)</td>
<td></td>
</tr>
<tr>
<td>Surf Coast Tourism (SCT)</td>
<td></td>
</tr>
<tr>
<td>Otways Tourism (OT)</td>
<td></td>
</tr>
</tbody>
</table>

The local tourism associations (LTAs) develop local tourism businesses and collaborate with regional tourism authorities and state bodies in the interest of local tour operators. Associations and industry organizations can provide resources and opportunities and support tourism business operators in their daily activities.
Strategic orientation of tourism activities in Australia

The “National Long-Term Tourism Strategy” was launched in December 2009, followed by the “Potential Tourism Industry”, in November 2010. The strategy “Tourism 2020” was released on December 6, 2011, as an update of the National Long-Term Tourism Strategy. “Tourism 2020” integrates the National Long-Term Tourism Strategy with the objectives of tourism industry to be achieved by 2020. Approved by tourism ministers from all states and territories of Australia, the strategy “Tourism 2020” brings together the work and research in the field, as well as the collaboration between tourism industry and governments in a single document, a plan connecting supply and demand in tourism.

“Tourism 2020” is considered a milestone in Australia’s tourism policy, a long-term integration of research and collaboration at an unprecedented level between the tourism industry and the governments of the Australian states and territories, in order to maximize the economic potential of the tourism industry. It is about creating a policy framework to support the development of the tourism industry with tools capable to ensure competitiveness in the global economy, especially in the Asian market opportunities. This is because, in recent years, arrivals of tourists from China and South Korea have increased significantly, by 24% and 18% due to favorable economic conditions in these markets and increase air capacity. China has become the most valuable tourism market of Australia, surpassing the United Kingdom in 2010. Receipts from Chinese tourists have increased by 17.1% per year since 2001.

“Tourism 2020” marks the next phase in the evolution of National Long-Term Tourism Strategy, through which the Australian governments will work together with tourism industry operators to implement the strategy and monitor progress towards achieving the 2020 Tourism Industry Potential.

“Tourism 2020” is the national strategy of development and competitiveness increase of the tourism industry, focusing efforts on six strategic areas [10]:

- increasing demand from the Asian market;
- developing competitive digital capabilities;
- encouraging investments and implementation of reforms;
- ensuring the support capacity of the environment;
- increasing participation of local people as labor in tourism;
- increasing adaptability, productivity and quality of the tourism
industry.

The strategy will be implemented in more stages, including periodic quantifications of results. The Department of Resources, Energy and Tourism (RET) of the Commonwealth Government runs a series of programs to support small businesses, including those in tourism [11]. RET is involved in:

• National Long-Term Tourism Strategy, a policy framework that supports the development of the tourism industry and provides tools to compete more effectively in the global economy;
• T-Qual Grant Program supports improving the quality of tourism products and experiences, through grants for large and small projects;
• T-QUAL Accreditation is a new national tourism accreditation framework, identifiable with the national symbol of quality, T-QUAL Tick;
• China ADS is a scheme focused on the Chinese tourism market. This allows Australia to host groups of tourists from China for leisure and allows the Australian Government, through Tourism Australia, to promote Australia as a tourist destination in China.

Other government programs administered by RET are:
• “Enterprise Connect” offers consultancy for small and medium tourism enterprises;
• “Business.gov.au” is an entire government department that provides information on business planning, initiating and developing;
• “Grant and Assistance Finder Tool” provides assistance in obtaining grants offered by the governments of the Australian states and territories;
• “Programs and Resources to Aid Indigenous Tourism Development” provides information on the available government programs of assisting tourism business for the local population;
• “Programs and Resources for Responding to Climate Change” provides information on Australian Government’s programs and resources that can benefit the tourism industry in reply to climate change issues;
• “Crisis Management Programs and Resources” provides information on Australian Government’s programs that can benefit the tourism industry in case of crisis management.

Tourism Australia also runs three programs from public funds, reporting the results to the Australian Parliament. These programs refer to:
• increasing demand for Australia as a tourist destination;
• improving the distribution system for holiday packages;
• contributing to the development of a sustainable tourism industry, involving stakeholders, supporting decision making, marketing and trade development (Corporate Plan).

Tourism Australia and its predecessor (Australian Tourism Committee) has sold Australia as a tourist destination internationally even since 1967. Since that time, Australia has established a reputation for innovative tourism marketing, building one of the most successful and desirable tourism brands:

“Our story begins with this land, a land that inspires dreams, embraces adventure and invites you to learn its secrets with the people who call Australia home. You do not only visit Australia, but live as in Australia, finding your own story."

Ecolabels are tools that lead the tourism industry to sustainable development. They provide reliable information and guarantee the quality of tourism products and services for tourists, tourism managers, government agencies and politicians. Ecotourism has grown significantly in recent decades due to the influence of ecolabels on travel decision making. Tour companies use ecolabels as tools for obtaining competitive advantage. Among the world renowned ecocertification programs and ecolabels, Australia developed the followings:

• ECO Certification Program is conducted by Ecotourism Australia, ensures and guarantees that the certified products are in accordance with the best sustainable practices and the travel experiences in nature is of high quality. It is now exported worldwide as the International ECO Certification Program. The program EcoGuide Australia provides an authentic, professional and environmentally responsible travel experience;

• NEAP is the Nature Tourism and Ecotourism Accreditation Program of Australia, operating under the authority of the Ecotourism Association of Australia (EAA). The program serves three ecotourism sectors (accommodation, attractions and tours), respecting eight principles: nature travel for its better understanding and appreciation; the best practice of sustainable tourism; contributing to nature conservation; benefits for local people; involving different cultures, especially the local culture; meeting tourists’ expectations; realistic marketing and realistic experiences [12].
Conclusions

The present characteristics of the tourism industry in Australia can be summarized as follows [9]:

- the existence of 36,000 available jobs in the tourism industry and another 56,000 to 152,000 jobs needed to use its full potential;
- 40,000-70,000 rooms needed to valuate the potential;
- the aircraft transport capacity has to increase with 40-50% for international flights and 23-30% for internal ones;
- only one third of Australia’s tourism operators have online booking and payment systems for the tourist packages.

The Australian Government is working with tourism industry operators to effectively use the tourism potential of Australia.

All stakeholders have important roles in implementing the strategy “Tourism 2020”, as follows:

- the tour operators and other related organizations will continue to participate in or support the working groups, and to use, improve and promote the objectives of the strategy. These will be integrated into their work, in their own strategies and plans;
- the working groups will continue to monitor prior actions under the strategy, by means of cooperation between governments’ members of the Australian States and Territories and tourism industry. Tourism Quality Council of Australia will ensure competitiveness and quality objectives;
- the governments of the Australian States and Territories will continue to work closely with the tourism industry and will have key responsibilities in all strategic fields;
- the Australian Government has leading role in several areas through the Department of Resources, Energy and Tourism, and the government agency Tourism Australia, while other government agencies will be responsible for monitoring and coordinating the policy levers in tourism;
- the leadership is provided by the Tourism Ministers at federal, state or territory levels, backed by the Australian Standing Committee on Tourism (which includes the CEOs of government tourist organizations).

The main objectives to be achieved by 2020 are [10]:

- 115-140 billion dollars in tourism receipts;
- maintaining or increasing market shares on key markets;
- increasing labor in tourism;
• increasing accommodation capacity;
• increasing international and domestic aircraft capacity;
• improving quality and productivity of tourism industry.

The tourism industry in Australia focuses on the following prior forms of tourism:
• leisure tourism: the main objective is to attract foreign tourists that visit Australia for the first time, and the secondary objective is to repeat this tourist experience (their return to Australia);
• international business tourism: business meetings of various corporations and associations.

The marketing strategy of Tourism Australia [13] refers to the concentration of most marketing resources on the markets of highest tourism potential by 2020. Tourism Australia also aims at those emerging markets with the highest growth potential, as well as at the other markets around the world:

Category I:
• tourism markets whose potential will exceed $5 billion by 2020: China, UK, U.S.A., Australia;
• tourism markets whose potential will exceed $3 billion by 2020: New Zealand, Japan, South Korea.

Category II:
• potential tourism markets of 1.5 to 3 billion dollars by 2020: Singapore, Persian Gulf States, Malaysia, Germany, Indonesia, Hong Kong, India, Canada, France.

Category III:
• rapidly emerging tourism markets: Brazil, Vietnam;
• high priority tourism markets: Italy;
• other markets.

Australia’s competitive advantages that differentiate it from other tourist destinations in the world, include: unique landscapes, nature trips, cultural heritage of indigenous people, sophisticated cities and regions, but also friendly and tolerant people. However, the recipe for a successful and sustainable tourism requires more. Improving the quality of tourism products and services, tourism infrastructure, professional development of workers in tourism, are elements that will maximize and sustain the economic value of Australia’s natural advantages as a tourist destination.

This study is the first step in analyzing the organization of tourism industry and tourism development strategy of a region with great tourist
potential. It may be a procedural model of presenting information, that may be extended through a similar approach of organizing tourism industry and tourism development strategy in other areas. Comparative analyses could be made, starting from the research of tourism industry and tourism development strategy in the investigated countries, resulting in useful conclusions on the overall performance of different systems.

References

Perceptions Over the Audit Committee Practices in the Context of Corporate Governance: Evidence from Romania

Author: Cristina Boța-Avram, Department of Accounting and Audit, Babeş-Bolyai University, Faculty of Economics and Business Administration, Romania, botaavram@gmail.com,

The aim of current study is to investigate the Romanian auditors’ perceptions over the audit committee practices that should be taken into account for an integrated framework of good practices in the context of corporate governance. Starting from this main objective, this study also aims to explore the actual applicability of the proposed audit committee practices. Statistical analysis was conducted on data obtained from questionnaires submitted to a significant sample of Romanian auditors, members of Chambers of Financial Auditors of Romania, the main organism that is coordinating the audit activity in Romanian context. In spite of the fact the response rate was not the most significant one; the author do still believe that these results could represent a relevant starting point in developing an integrated framework of good audit practices, including audit committee practices, in order to stimulate the corporate governance soundness.

Keywords: Romanian auditors, auditors’ perceptions, audit committee, corporate governance, good audit practices

Introduction

Until the end of 20th century, most of the researches and studies dedicated to the audit committee were focused mainly of the effectiveness of the audit committee (McMullen, 1996; Porter & Gendall, 1998; Beasley et al., 2000), but starting with the beginning of 21st century the audit committee and its responsibilities have began to be in the centre of various researchers interests, mostly under the perspective of the relationships between audit committee
and internal audit and external audit, the role and responsibilities of audit committee corroborated with the ones of internal audit being quite significant in the process of enhancing the quality of corporate governance system (Bishop et al., 2000; McElveen, 2002). The necessity to investigate the way that audit committee interact with internal and external audit is increasingly more growing, especially in the context of the increasing importance given to the ensuring the soundness of corporate governance (DeZoort, 2002), all these being resulted in developing different studies focused on the way that audit committee interacts with internal audit, and sometimes with external audit (Mat Zain & Subramaniam, 2007; Sarens & DeBeelde, 2006; Mat Zain et al., 2006; Goodwin and Kent, 2006; Krishnan, 2005; Gramlin et al, 2004; Gendron et al., 2004; Willekens et al., 2004; Turley and Zaman, 2004; Goodwin, 2003; Goodwin and Yeo, 2001). Trying to synthesize the findings of these studies into a general idea, there could be noticed the intensification of the relationships between audit committee with internal audit and external audit, but mostly with internal audit, being promoted the idea that as long this audit committee will be seen by internal auditors as an independent forum where various company’ business affairs are discussed and solved, as long the premises for a good corporate governance will be ensured.

The connections that should exist between audit committee with internal audit and external audit are also highlighted by the latest findings of some researchers (Porter, 2009; Sikka, 2009) that emphasize the idea of audit trinity (internal audit, external audit, audit committee – the interface between internal and external audit) as a key element in the process of ensuring the corporate responsibility and governance. Same as internal audit and external audit, audit committee also had known significant mutations from its objectives’ point of view, and so if at the beginning audit committee was mostly focused over the financial reporting process, actually the objectives of the audit committee started to be more extended, being strongly focused over the ensuring the soundness of corporate governance of the entity (Porter, 2009).

Audit committee’s role in corporate governance’s area – background literature

As a result of many financial scandals that shuddered the economic world starting with the end of 20th century and the beginning of 21st, there
has been felt an increasing necessity for implementing measures designed to enhance corporate governance which should rebuild the investor confidence in the credibility of financial reporting and the soundness of capital markets from all over the world.

In this context, an increasing attention was given to the audit committee as a central supervising body within the company which should provide a carefully monitoring of financial reporting process and ensuring the reliability of the audited financial statements. In that direction, McMullen (1996) shows through his study the direct connections that could be identified between the presence of an audit committee and the reliability of financial reporting, but also with a reduced incidence of errors or irregularities. The audit committee is commonly view as a body or a mechanism which should supervise the soundness of financial reporting process, but also as a main provider of reasonable assurance for the relevance and reliability of annual reports and financial statements issued by management (DeZoort, 1997; Wolnizer, 1995; Bradbury, 1990), being in the same time the main responsible for improving the quality of flow information between the company owners (shareholders and potential shareholders) and the managers (Barako, 2007). The study of Bradbury (1990) focused on researching the audit committee formation in New Zealand identified at least three reasons for establishing audit committees:

- To contribute at the increasing the reliability of audited financial statements,
- To give a help to the board of directors in achieving their responsibilities,
- To ensure the auditor independence.

As a result of this influence of audit committees on the process of financial reporting and annual reports, Barako (2007) tested a research hypothesis that confirms the level of voluntary disclosure is higher for firms that have an audit committee, which is one more reason to highlight the significant role of the audit committee in corporate governance context.

Braiotta et al (2010) had dedicated a very extensive and valuable work to the audit committee, its role and its practices in the context of corporate accountability and corporate governance. Accordingly to Sections 205 and 301 of the Sarbanes-Oxley Act of 2002, Braiotta et al (2010) emphasize the fundamental roles for the audit committees:

1. The audit committee has oversight responsibility for the accounting and financial reporting processes of the company and for its financial statements
2. The audit committee is responsible for appointing, compensating and supervising the external auditor.

3. The audit committee must establish the procedures for solving different complaints about accounting, internal control or auditing matters, ensuring in the same time the confidentiality for different questionable accounting or auditing issues submitted by employees.

4. The audit committee also should ensure that the company has the appropriate systems implemented for the effective monitoring and management of risk.

Next, in figure no.1, we tried to offer a synthesis of the main roles and responsibilities attributed to the audit committee in the vision of Braiotta et al (2010), considering that it could be a good starting point in designing a set of good practices of the audit committee in the context of corporate governance, starting from the main objectives that the audit committee has to fulfil within a company.

**Figure 1:** Audit committee’s role and responsibilities

Source: adapted from Braiotta et al (2010)
Research Methodology Development

Scientific approach
The scientific research of this current study is based on fundamental type, under the influence of mainstream research approach. Starting from the review of relevant literature, with a focus on significantly research developments and studies with respect to the audit committee’s role and responsibilities it was developed a synthesis of main audit committee practices that should be taken into account into an integrated framework of good audit practices in the context of corporate governance. The following step was to test these practices based on empirical study which has the main goal to highlight the Romanian auditors’ perception over the audit committee practices in corporate governance’s area. For all audit committee practices tested through this survey there were tested two main criteria as presented below in Figure no.2

Figure 2: Criteria used for testing the proposed audit committee practices, Source: developed by the author of this study

Development of empirical study – purpose and objectives
This current study aimed to become a relevant starting point in the process of delineation the good audit committee practices in the context of more and more stringent latest requirements over the soundness of corporate governance, but without claiming that there were identified the most relevant audit committee practices. More exactly, the main objectives followed in developing such a study were represented by:

• To get a synthetic view from the Romanian auditors’ perspective with regard to the audit committee good practices that should be taken into account.

• To test the real applicability of the proposed audit committee
practices from the respondents' point of view

- To try to obtain other proposals of good audit committee practices from respondents' point of view that should also be taken in consideration.

Based on relevant literature review, it was made a selection of the most significant and relevant audit committee practices, all these being included in questionnaire used to develop this present study. In Table no.1 are summarised all these audit committee practices over it was tested the auditors’ perception from their proposal but also from their applicability point of view.

**Table 1:** The synthesis of audit committee practices proposed and tested

<table>
<thead>
<tr>
<th>No.</th>
<th>The audit committee practices proposed within this study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The audit committee is invested with authority by the board in order to be able to fulfill its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.</td>
</tr>
<tr>
<td>2.</td>
<td>The audit committee monitors the internal audit’s position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives.</td>
</tr>
<tr>
<td>3.</td>
<td>The audit committee monitors that internal audit to have the full access to the whole personnel and the entire documentation within the company.</td>
</tr>
<tr>
<td>4.</td>
<td>The audit committee is responsible with the selection, appointing and dismissing the chief audit executive within the company.</td>
</tr>
<tr>
<td>5.</td>
<td>The audit committee has periodical meetings with the internal audit department in order to be informed over the internal audit activity’s results.</td>
</tr>
<tr>
<td>6.</td>
<td>The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.</td>
</tr>
<tr>
<td>7.</td>
<td>The audit committee should know the assessment of internal audit activity made by external audit.</td>
</tr>
<tr>
<td>8.</td>
<td>The audit committee charter is complementary with the internal audit charter.</td>
</tr>
<tr>
<td>9.</td>
<td>The audit committee examines the recommendations made by internal audit for improving corporate governance and internal control system, looking for the best solutions.</td>
</tr>
<tr>
<td>10.</td>
<td>The audit committee assesses the way that internal audit achieves its objectives with respect to disclosure and transparency.</td>
</tr>
<tr>
<td>11.</td>
<td>Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.</td>
</tr>
<tr>
<td>12.</td>
<td>The audit committee should provide the necessary framework to encourage the effective communication between internal audit, external audit, board and executive management, for ensuring good corporate governance.</td>
</tr>
</tbody>
</table>
13. The audit committee should know very well the company risk profile and to monitor the effectiveness of risk management process.

14. The audit committee makes the proposals/recommendations for the selection of external audit firm, being responsible for supervising the entity’s relationships with external auditors.

15. The audit committee monitors the independence of external auditors and develops policies with respect to the contractual provisions referring to the non-audit services provided by the external auditors.

16. The audit committee review together with the external auditors and executive management the accounting policies applied by the company, but also the quality of professional judgements and accounting estimates made by the management.

17. The audit committee should understand very clearly the way that internal control system works, and it should monitor its effectiveness regularly together with internal and external auditors.

18. The audit committee should monitor the compliance with the legal framework applied, including with the ethical code specific for this company.

19. The audit committee review with the external auditors and executive management the entity’s financial statements, and based on the external audit’s conclusions following to make a recommendation to the Board for these financial statements to be approved and published.

20. The audit committee may adopt a “revolving door” policy which refers to the requirement of certain restrictions with respect to the employment in some positions like financial manager by some persons who were previously members of the internal audit or external audit team.

Source: a projection made the author based on relevant literature review

Tools and sample used

This empirical survey was developed based on an emailed questionnaire sent to members of Chambers of Financial Auditors of Romania (CAFR) working in various positions connected in one way or another to the audit activity. The questionnaire as research technique was used in conjunction with the sample as a tool research. The sample used in this research was determined starting from the members of professional body which coordinates the audit activity at Romanian level. Thus, our statistical population included the active members of CAFR, whose email and contact details were available on the CAFR's website. The period for developing this research was February – May 2011. In spite of its disadvantages, the option for using the e-mail questionnaire
was argued by the necessity of including in the sample a large number of respondents, while an alternative direct approach would be quite difficult. We decided to use such a sample formed from Romanian auditors in order to test the audit committee practices, because of the difficulties in finding information about the audit committee's structure acting in Romania entities. Actually, there is no public database available in Romania, from where to find about the details contact of the members of all audit committees that are functioning in Romanian economic context. So, we decided to test these audit practices from the perspective of the auditors that should interact effectively with the audit committee's members.

The used questionnaire was developed on next sections:

1. **Part I – General Information**
2. **Part II – Perceptions over internal audit’s role and practices in corporate governance**
3. **Part III - Perceptions over external audit’s role and practices in corporate governance**
4. **Part IV - Perceptions over audit committee's role and practices in corporate governance**

The specific objective of this paper is to analyse the results of Part I and Part IV (the other parts (Part II and Part III) of this questionnaire were developed and discussed in other studies), more exactly, the respondent’s perceptions over the audit committee’s role and good practices in the context of corporate governance. It is necessary to mention that for each section, the respondent had the possibility to propose another good audit practices, beside the ones mentioned within the questionnaire, because as it was mentioned before, this study claims to be only a starting point in the identifying the best audit practices in the field of corporate governance. The sample used in this survey is presented in Table no.2.

<table>
<thead>
<tr>
<th>Table 2: Sample used and response rate obtain in the present study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample of members CAFR selected</td>
</tr>
<tr>
<td>Invalid email contacts</td>
</tr>
<tr>
<td>Valid contacts</td>
</tr>
<tr>
<td>Respondents with no audit experience</td>
</tr>
<tr>
<td>Final sample</td>
</tr>
<tr>
<td>Questionnaires received</td>
</tr>
</tbody>
</table>
Unfortunately, from the first sample, a quite big numbers of selected contacts proved to be invalid due to the failures messages received at the mail delivery. After the questionnaire was sent there were some respondents that honestly admitted they have the quality of member CAFR, but they don’t have enough or not all audit experience (67 respondents). From the total of 44 received questionnaires, a significant number of 20 questionnaires were considered invalid due to some errors in proper fulfilling of questionnaires. The first part was included general information about the respondents, especially about their professional experience. In the final lot of valid questionnaires there were not included the questionnaires completed by the respondents with no audit experience, starting from their statement about their professional experience.

Data Analysis And Findings

**Analysis of results**

In spite of the lower response rate obtained and even if our common sense can’t afford us to accept this response rate as being one of the most relevant one, we do still believe that the relevancy of our findings are significant in the manner they will be considered as a starting point in developing more complex studies, probably using also other research tools that could increase the relevancy of the results. By presenting an overview of the main findings and conclusions resulting from this study, we hope to stimulate further research and to initiate constructive debates in this interesting research area.

Referring to the disadvantages of email surveys, we identified an interesting meta-analysis of comparing response rates in email and paper surveys developed by Shih and Fan (2009). Their findings show that e-mail survey mode generally has considerably lower response rate than traditional mail survey mode regardless of other survey characteristics (e.g. target population, use of reminders for non-respondents, use of incentives). Also, Shih and Fan (2009) show that lower response rate in e-mail survey might
partially be the result of prevalent junk/spam e-mails nowadays, which may have caused many potential respondents to ignore legitimate e-mail surveys. Anyway, in spite of these disadvantages, Shih and Fan (2009) are agreed that this does not necessarily mean that e-mail survey should not have its place in the repertoire of survey researchers. There shouldn’t be ignored the advantages of e-mail survey like:

- A shorter response time,
- Considerably lower survey cost,
- Capability of reaching a large sample of respondents,
- Knowledge about whether an e-mail survey has been delivered to the correct e-mail address, etc.

In the vision of Shih and Fan (2009), in spite of its disadvantage in terms of survey response rate currently shown in the recent literature, we don’t have to forget about these unique characteristics of email survey that make it a relevant and useful tool for survey researchers in certain research situations and area, where the application of other research tools would be quite difficult or even impossible.

Referring to our results, the first point discussed is the respondents’ professional experience. As it is presented in Table no.3, over 70% of our respondents state they have a professional experience on the audit activity over 5 years. Our assumption is that starting from this significant proportion of the respondents with relevant professional experience, we could considered it as a significant argument in considering the results of this current study as a good starting point for stimulating further research with respect to the developing an integrated framework of good practices in corporate governance’s area.

**Table 3: The professional experience of respondents**

<table>
<thead>
<tr>
<th>Professional experience</th>
<th>The respondents’ position</th>
<th>under 2 years</th>
<th>between 2 and 5 years</th>
<th>over 5 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal auditor</td>
<td>8,3%</td>
<td>12,5%</td>
<td>50,0%</td>
<td>70,8%</td>
<td></td>
</tr>
<tr>
<td>External auditor</td>
<td>8,3%</td>
<td>0,0%</td>
<td>20,8%</td>
<td>29,2%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,7%</strong></td>
<td><strong>12,5%</strong></td>
<td><strong>70,8%</strong></td>
<td><strong>100,0%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: author’s projection by using SPSS 16

As we mentioned above, for all audit committee practices indicated in Table no.1, the main objective was the investigation of the auditors’ perception from next points of view:
• **Their proposal** for inclusion into a set of good practices for audit committee activity. Thus the respondents had the possibility to express their agreement or disagreement about the proposals of audit committee practices by using Likert Scale where: (1) – *Strongly disagree*; (2) – *Disagree*; (3) – *Not sure*; (4) – *Agree*; (5) – *Strongly agree*.

• **Their actual applicability** was tested by using also Likert scale, where: (1) – *Unknown*; (2) – *Known, but never applied*; (3) – *Known, but rarely applied*; (4) – *Known and often applied*; (5) – *Known and always applied*.

Next, in Table no.4 and Table no.5 there are presented the statistical frequencies obtained for the tested audit committee practices from both perspectives: their proposal and their applicability.

**Table 4: Proposals for audit committee practices**

<table>
<thead>
<tr>
<th>No.</th>
<th>Proposals for audit committee practices</th>
<th>Response options</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>1</td>
<td>The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.</td>
<td>0%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2</td>
<td>The audit committee monitors the internal audit’s position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>3</td>
<td>The audit committee monitors that internal audit to have the full access to the whole personnel and the entire documentation within the company.</td>
<td>0%</td>
<td>4,2%</td>
</tr>
<tr>
<td>4</td>
<td>The audit committee is responsible with the selection, appointing and dismissing the chief audit executive within the company.</td>
<td>0%</td>
<td>8,4%</td>
</tr>
<tr>
<td>5</td>
<td>The audit committee has periodical meetings with the internal audit department in order to be informed over the internal audit activity’s results.</td>
<td>0%</td>
<td>4,2%</td>
</tr>
<tr>
<td>6</td>
<td>The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>The audit committee should know the assessment of internal audit activity made by external audit.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>8</td>
<td>The audit committee charter is complementary with the internal audit charter.</td>
<td>4,2%</td>
<td>0%</td>
</tr>
<tr>
<td>9</td>
<td>The audit committee examines the recommendations made by internal audit for improving corporate governance and internal control system, looking for the best solutions.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>10</td>
<td>The audit committee assesses the way that internal audit achieves its objectives with respect to disclosure and transparency.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>11</td>
<td>Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>12</td>
<td>The audit committee should provide the necessary framework to encourage the effective communication between internal audit, external audit, board and executive management, for ensuring good corporate governance.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>13</td>
<td>The audit committee should know very well the company risk profile and to monitor the effectiveness of risk management process.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>14</td>
<td>The audit committee makes the proposals/recommendations for the selection of external audit firm, being responsible for supervising the entity’s relationships with external auditors.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>15</td>
<td>The audit committee monitors the independence of external auditors and develops policies with respect to the contractual provisions referring to the non-audit services provided by the external auditors.</td>
<td>4,2%</td>
<td>33,3%</td>
</tr>
<tr>
<td>16</td>
<td>The audit committee review together with the external auditors and executive management the accounting policies applied by the company, but also the quality of professional judgements and accounting estimates made by the management.</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
The audit committee should understand very clearly the way that internal control system works, and it should monitor its effectiveness regularly together with internal and external auditors.

<table>
<thead>
<tr>
<th>No.</th>
<th>Actual application of audit committee practices</th>
<th>Response options</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>1</td>
<td>The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.</td>
<td>0%</td>
<td>16,6%</td>
</tr>
<tr>
<td>2</td>
<td>The audit committee monitors the internal audit’s position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives.</td>
<td>0%</td>
<td>16,6%</td>
</tr>
<tr>
<td>3</td>
<td>The audit committee monitors that internal audit to have the full access to the whole personnel and the entire documentation within the company.</td>
<td>0%</td>
<td>16,6%</td>
</tr>
</tbody>
</table>

Source: author’s projection by using SPSS 16
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The audit committee is responsible with the selection, appointing and dismissing the chief audit executive within the company.</td>
<td>0%</td>
<td>12,4%</td>
<td>41,8%</td>
<td>20,8%</td>
</tr>
<tr>
<td>5</td>
<td>The audit committee has periodical meetings with the internal audit department in order to be informed over the internal audit activity’s results.</td>
<td>0%</td>
<td>12,4%</td>
<td>33,4%</td>
<td>37,5%</td>
</tr>
<tr>
<td>6</td>
<td>The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.</td>
<td>0%</td>
<td>12,4%</td>
<td>25%</td>
<td>29,2%</td>
</tr>
<tr>
<td>7</td>
<td>The audit committee should know the assessment of internal audit activity made by external audit.</td>
<td>4,2%</td>
<td>12,4%</td>
<td>33,4%</td>
<td>20,8%</td>
</tr>
<tr>
<td>8</td>
<td>The audit committee charter is complementary with the internal audit charter.</td>
<td>8,3%</td>
<td>16,7%</td>
<td>29,2%</td>
<td>25%</td>
</tr>
<tr>
<td>9</td>
<td>The audit committee examines the recommendations made by internal audit for improving corporate governance and internal control system, looking for the best solutions.</td>
<td>0%</td>
<td>16,6%</td>
<td>37,6%</td>
<td>25%</td>
</tr>
<tr>
<td>10</td>
<td>The audit committee assesses the way that internal audit achieves its objectives with respect to disclosure and transparency.</td>
<td>0%</td>
<td>16,6%</td>
<td>41,7%</td>
<td>29,2%</td>
</tr>
<tr>
<td>11</td>
<td>Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.</td>
<td>0%</td>
<td>12,5%</td>
<td>20,8%</td>
<td>16,7%</td>
</tr>
<tr>
<td>12</td>
<td>The audit committee should provide the necessary framework to encourage the effective communication between internal audit, external audit, board and executive management, for ensuring good corporate governance.</td>
<td>0%</td>
<td>16,6%</td>
<td>37,6%</td>
<td>25%</td>
</tr>
<tr>
<td>13</td>
<td>The audit committee should know very well the company risk profile and to monitor the effectiveness of risk management process.</td>
<td>0%</td>
<td>16,6%</td>
<td>37,6%</td>
<td>20,8%</td>
</tr>
<tr>
<td>14</td>
<td>The audit committee makes the proposals/recommendations for the selection of external audit firm, being responsible for supervising the entity’s relationships with external auditors.</td>
<td>8,4%</td>
<td>16,6%</td>
<td>29,2%</td>
<td>16,6%</td>
</tr>
</tbody>
</table>
15. The audit committee monitors the independence of external auditors and develops policies with respect to the contractual provisions referring to the non-audit services provided by the external auditors.

|   |   | 8,4% | 16,6% | 25% | 25% | 100% |

16. The audit committee review together with the external auditors and executive management the accounting policies applied by the company, but also the quality of professional judgements and accounting estimates made by the management.

|   |   | 0% | 20,8% | 29,2% | 25% | 25% | 100% |

17. The audit committee should understand very clearly the way that internal control system works, and it should monitor its effectiveness regularly together with internal and external auditors.

|   |   | 0% | 12,5% | 41,7% | 25% | 20,8% | 100% |

18. The audit committee should monitor the compliance with the legal framework applied, including with the ethical code specific for this company.

|   |   | 4,2% | 12,5% | 45,8% | 12,5% | 25% | 100% |

19. The audit committee review with the external auditors and executive management the entity’s financial statements, and based on the external audit’s conclusions following to make a recommendation to the Board for these financial statements to be approved and published.

|   |   | 0% | 16,6% | 33,4% | 12,5% | 37,5% | 100% |

20. The audit committee may adopt a “revolving door” policy which refers to the requirement of certain restrictions with respect to the employment in some positions like financial manager by some persons who were previously members of the internal audit or external audit team.

|   |   | 4,2% | 12,5% | 50% | 20,8% | 12,5% | 100% |

Source: author’s projection by using SPSS 16

Analysing the above tables, it could be noticed there are some audit committee practices like the audit committee practice no.1 (“The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.”) for which more than 70% are strongly agreed to be included as a good audit committee practice into an integrated framework, but only 25% admitted that they are known and often applied, while 29,2% said they are known but quite rarely applied. The same situation is also available for other audit committee practices like
Perceptions Over the Audit Committee Practices in the Context of Corporate Governance: Evidence from Romania

no.2 (“The audit committee monitors the internal audit’s position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives”), where 62.5% are strongly agreed with these good practice, but only 29.2% state there are known and often applied. Same differences between the agreement of their inclusion within an integrated framework of good audit practices and their real applicability at this moment could also be noticed for practices no.3, 6, 12 and 19 from the tables presented above.

For many of those practices tested through this present study there seems to be significant differences between the respondent’s perception over their proposals and their real applicability at this moment. In the author’s opinion, these significant differences between their proposal and their applicability at this moment could be interpreted as a strong signal that it’s time to pay a lot more attention to the process of reviewing the audit committee audit practices, to develop a consistent analysis in order to see exactly the necessary changes required by this difficult and volatile economic context. Next, in tables no.6 and no.7 for each of the audit committee practices tested there are presented the basic statistical parameters, for both perspectives (proposal and application), mentioning that the display order will be descending means.

**Table 6: Statistical parameters for proposals of audit committee practices**

<table>
<thead>
<tr>
<th>Proposals of audit committee practices</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The audit committee review with the external auditors and executive management the entity’s financial statements, and based on the external audit’s conclusions following to make a recommendation to the Board for these financial statements to be approved and published.</td>
<td>24</td>
<td>3.00</td>
<td>5.00</td>
<td>4.4583</td>
<td>.83297</td>
<td>.694</td>
</tr>
<tr>
<td>2. The audit committee monitors the internal audit’s position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives.</td>
<td>24</td>
<td>3.00</td>
<td>5.00</td>
<td>4.4583</td>
<td>.77903</td>
<td>.607</td>
</tr>
<tr>
<td>3. The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.</td>
<td>24</td>
<td>2.00</td>
<td>5.00</td>
<td>4.4583</td>
<td>.93153</td>
<td>.868</td>
</tr>
<tr>
<td>4. Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.</td>
<td>24</td>
<td>3.00</td>
<td>5.00</td>
<td>4.4583</td>
<td>.83297</td>
<td>.694</td>
</tr>
</tbody>
</table>
### 5. The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.

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<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,4583</td>
<td>83297</td>
<td>694</td>
</tr>
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</table>

### 6. The audit committee should know very well the company risk profile and to monitor the effectiveness of risk management process.

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<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,4167</td>
<td>82970</td>
<td>688</td>
</tr>
</tbody>
</table>

### 7. The audit committee monitors that internal audit to have the full access to the whole personnel and the entire documentation within the company.

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<tbody>
<tr>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>4,3750</td>
<td>96965</td>
<td>940</td>
</tr>
</tbody>
</table>

### 8. The audit committee should provide the necessary framework to encourage the effective communication between internal audit, external audit, board and executive management, for ensuring a good corporate governance.

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<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,3750</td>
<td>87539</td>
<td>766</td>
</tr>
</tbody>
</table>

### 9. The audit committee should understand very clearly the way that internal control system works, and it should monitor its effectiveness regularly together with internal and external auditors.

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<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,3333</td>
<td>81650</td>
<td>667</td>
</tr>
</tbody>
</table>

### 10. The audit committee makes the proposals/recommendations for the selection of external audit firm, being responsible for supervising the entity’s relationships with external auditors.

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</thead>
<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,3333</td>
<td>86811</td>
<td>754</td>
</tr>
</tbody>
</table>

### 11. The audit committee examines the recommendations made by internal audit for improving corporate governance and internal control system, looking for the best solutions.

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</thead>
<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,3333</td>
<td>81650</td>
<td>667</td>
</tr>
</tbody>
</table>

### 12. The audit committee assesses the way that internal audit achieves its objectives with respect to disclosure and transparency.

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</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,2917</td>
<td>85867</td>
<td>737</td>
</tr>
</tbody>
</table>

### 13. The audit committee should know the assessment of internal audit activity made by external audit.

<p>| | | | | | |</p>
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</thead>
<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,2500</td>
<td>89685</td>
<td>804</td>
</tr>
</tbody>
</table>

### 14. The audit committee review together with the external auditors and executive management the accounting policies applied by the company, but also the quality of professional judgements and accounting estimates made by the management.

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</thead>
<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,2500</td>
<td>84699</td>
<td>717</td>
</tr>
</tbody>
</table>

### 15. The audit committee has periodical meetings with the internal audit department in order to be informed over the internal audit activity’s results.

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</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>4,2083</td>
<td>93153</td>
<td>868</td>
</tr>
</tbody>
</table>

### 16. The audit committee may adopt a “revolving door” policy which refers to the requirement of certain restrictions with respect to the employment in some positions like financial manager by some persons who were previously members of the internal audit or external audit team.

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</thead>
<tbody>
<tr>
<td>24</td>
<td>3,00</td>
<td>5,00</td>
<td>4,1250</td>
<td>79741</td>
<td>636</td>
</tr>
</tbody>
</table>

### 17. The audit committee is responsible with the selection, appointing and dismissing the chief audit executive within the company.

<p>| | | | | | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>4,1250</td>
<td>1,03472</td>
<td>1,071</td>
</tr>
</tbody>
</table>
18. The audit committee should monitor the compliance with the legal framework applied, including with the ethical code specific for this company.

19. The audit committee charter is complementary with the internal audit charter.

20. The audit committee monitors the independence of external auditors and develops politics with respect to the contractual provisions referring to the non-audit services provided by the external auditors.

Source: author’s projection by using SPSS 16

Table 7: Statistical parameters for application of audit committee practices

<table>
<thead>
<tr>
<th>Proposals of audit committee practices</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>4,0417</td>
<td>1,12208</td>
<td>1,259</td>
</tr>
<tr>
<td>2. The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>3,8333</td>
<td>1,04950</td>
<td>1,101</td>
</tr>
<tr>
<td>3. The audit committee review with the external auditors and executive management the entity’s financial statements, and based on the external audit’s conclusions following to make a recommendation to the Board for these financial statements to be approved and published.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>3,7083</td>
<td>1,16018</td>
<td>1,346</td>
</tr>
<tr>
<td>4. The audit committee monitors that internal audit to have the full access to the whole personnel and the entire documentation within the company.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>3,6667</td>
<td>1,00722</td>
<td>1,014</td>
</tr>
<tr>
<td>5. The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>3,6667</td>
<td>1,09014</td>
<td>1,188</td>
</tr>
<tr>
<td>6. The audit committee should know the assessment of internal audit activity made by external audit.</td>
<td>24</td>
<td>1,00</td>
<td>5,00</td>
<td>3,5833</td>
<td>1,17646</td>
<td>1,384</td>
</tr>
<tr>
<td>7. The audit committee has periodical meetings with the internal audit department in order to be informed over the internal audit activity’s results.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5833</td>
<td>.92861</td>
<td>.862</td>
</tr>
<tr>
<td>8. The audit committee is responsible with the selection, appointing and dismissing the chief audit executive within the company.</td>
<td>24</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5833</td>
<td>1,01795</td>
<td>1,036</td>
</tr>
</tbody>
</table>
9. The audit committee should understand very clearly the way that internal control system works, and it should monitor its effectiveness regularly together with internal and external auditors.

10. The audit committee reviews together with the external auditors and executive management the accounting policies applied by the company, but also the quality of professional judgements and accounting estimates made by the management.

11. The audit committee should know very well the company risk profile and to monitor the effectiveness of risk management process.

12. The audit committee examines the recommendations made by internal audit for improving corporate governance and internal control system, looking for the best solutions.

13. The audit committee should provide the necessary framework to encourage the effective communication between internal audit, external audit, board and executive management, for ensuring a good corporate governance.

14. The audit committee monitors the internal audit's position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives.

15. The audit committee monitors the independence of external auditors and develops politics with respect to the contractual provisions referring to the non-audit services provided by the external auditors.

16. The audit committee makes the proposals/recommendations for the selection of external audit firm, being responsible for supervising the entity's relationships with external auditors.

17. The audit committee should monitor the compliance with the legal framework applied, including with the ethical code specific for this company.

18. The audit committee assesses the way that internal audit achieves its objectives with respect to disclosure and transparency.

19. The audit committee charter is complementary with the internal audit charter.

20. The audit committee may adopt a “revolving door” policy which refers to the requirement of certain restrictions with respect to the employment in some positions like financial manager by some persons who were previously members of the internal audit or external audit team.

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<tbody>
<tr>
<td>9</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5417</td>
<td>.97709</td>
<td>.955</td>
</tr>
<tr>
<td>10</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5417</td>
<td>1,10253</td>
<td>1,216</td>
</tr>
<tr>
<td>11</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5417</td>
<td>1,06237</td>
<td>1,129</td>
</tr>
<tr>
<td>12</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5000</td>
<td>1,02151</td>
<td>1,043</td>
</tr>
<tr>
<td>13</td>
<td>2,00</td>
<td>5,00</td>
<td>3,5000</td>
<td>1,02151</td>
<td>1,043</td>
</tr>
<tr>
<td>14</td>
<td>2,00</td>
<td>5,00</td>
<td>3,4583</td>
<td>.97709</td>
<td>.955</td>
</tr>
<tr>
<td>15</td>
<td>1,00</td>
<td>5,00</td>
<td>3,4167</td>
<td>1,28255</td>
<td>1,645</td>
</tr>
<tr>
<td>16</td>
<td>1,00</td>
<td>5,00</td>
<td>3,4167</td>
<td>1,31601</td>
<td>1,732</td>
</tr>
<tr>
<td>17</td>
<td>1,00</td>
<td>5,00</td>
<td>3,4167</td>
<td>1,13890</td>
<td>1,297</td>
</tr>
<tr>
<td>18</td>
<td>2,00</td>
<td>5,00</td>
<td>3,3750</td>
<td>.92372</td>
<td>.853</td>
</tr>
<tr>
<td>19</td>
<td>1,00</td>
<td>5,00</td>
<td>3,3333</td>
<td>1,23945</td>
<td>1,536</td>
</tr>
<tr>
<td>20</td>
<td>1,00</td>
<td>5,00</td>
<td>3,2500</td>
<td>.98907</td>
<td>.978</td>
</tr>
</tbody>
</table>

Source: author's projection by using SPSS 16
Based on the above tables, it was developed a ranking for the good practices, from both their proposal and their application, starting from the display order by descending means (first 5 means).

From the point of view of their proposals, the good audit committee practices that should be taken into account for an integrated framework from the respondents’ point of view are (their statistical mean is around 4.4583):

- The audit committee review with the external auditors and executive management the entity’s financial statements, and based on the external audit’s conclusions following to make a recommendation to the Board for these financial statements to be approved and published.
- The audit committee monitors the internal audit’s position within the company, so that internal audit to be so placed in the hierarchical structure in order to have ensured the necessary independence for the achievement of its objectives.
- The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.
- Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.
- The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.

From the point of view of their application, the good audit committee practices which are more applied, taking in consideration their statistical mean (around 3.6667-4.0417, which signifies these practices are more often applied):

- Following the findings and recommendations issued by internal audit, the audit committee will report to the board the main illegal acts and irregularities found during the audit missions.
- The audit committee should report to the board main results over the effectiveness of internal audit activity, its capabilities and its results.
- The audit committee review with the external auditors and executive management the entity’s financial statements, and based on the external audit’s conclusions following to make a recommendation to the Board for these financial statements to be approved and published.
- The audit committee monitors that internal audit to have the full...
access to the whole personnel and the entire documentation within the company.

- The audit committee is invested with authority by the board in order to be able to fulfil its role as a major factor for the increasing quality of the information provided to both internal and external users of financial statements.

Based on statistical parameters obtained for the audit committee practices tested through this study, it could be noticed that, generally speaking, the statistical mean obtained when speaking about their application is lower than the one resulted in case of their proposal, which could reflect the respondents’ position about their agreement for inclusions of those practices into an integrated framework of good audit committee practices in corporate governance, in spite of the fact that these proposed practices, according to their statements expressed through the questionnaire used in this survey, seem to be more rarely and less often applied. Also, it could be noticed that all the audit committee practices tested received at least a formal agreement, even if it is not a strong agreement for all of them (one evidence in this way being the smallest statistical mean obtained from all the audit committee practices tested of at least 4.00).

Limits of current study and suggestions for further research

One major disadvantage of this study is represented by the lower response rate, which even is over 5% (as recommended by statistical literature), still our common sense can’t afford us to consider this response rate as being the most relevant one. But, in spite of this great disadvantage, we do still believe the value of this paper is argued by its possibilities to generate the premises that will stimulate further researches in such area, taking in consideration the pressure of the actual economic context over the auditors, audit committee’ members, that all are called to rebuild the investor trust in the reliability and credibility of financial statements and annual reporting provided to the owners, shareholders and potential shareholders.

Also, we do still believe that these results should be corroborated with the ones obtained by testing these audit committee practices among respondents, having the quality of audit committee member. But, for the moment, at least in Romanian context, it is quite difficult to obtain a homogeneous database with contact details for audit committee members. Most likely, it would help more if this kind of research would be extended at international level, where the information available would certainly be more
consistent.

Conclusions

A general conclusion that could be observed is the general agreement of Romanian auditors for developing an integrated framework of good audit practices, most of the proposed practices obtaining their agreement for the inclusion into such a synthesis of good practices. Thinking of some the respondents’ comments that mentioned some real situations when there is no clear understanding in some Romanian entities about the real role and responsibilities that the audit committee should achieve, it’s obviously the stringent necessity for developing such a research theme with practical added-value for the entities. Developing studies in this research direction with more complex statistical analysis applied at international level, but also connected to the real economic life, could provide significant value that would help to obtain the real effectiveness of the audit committee in the context of corporate governance.

Acknowledgements

This paper was supported from the European Social Fund through Sectorial Operational Programme Human Resources Development 2007-2013, research project POSDRU/89/1.5/S/59184 ‘Performance and excellence in postdoctoral research within the field of economic sciences in Romania’, Babeş-Bolyai University, Cluj-Napoca being a partner within the project.

References:


Place of Value Management in a System of Corporate Management and Its Financial Methods

Author: Roman Igorevich Zavorotniy, “Kiev National Economic University named after Vadym Hetman”, Kiev, Ukraine, zavorotniy@rambler.ru

The author proves great urgency of applying of value approach in a strategic business management. All factors of corporate value are presented. Also there is different classifications of factors of corporate value which were developed by other scientists. The place of value strategy in strategic business management is researched.

The author proves that certain types of corporate value depend on main goals of corporate administration. He classifies some types of corporate value and financial indicators which correspond to them. Author defines financial methods of corporate value management and researches the influence of applying of each of them on corporate value.

Keywords: Balanced Scorecard, income approach, buyback, merger & acquisition, tax shield.

Introduction

Any enterprise is created for achievement of some main target, for execution of a certain mission on market. Normal development of each business is impossible without carefully developed strategy. Execution of strategy is based on system of certain control indicators of economic activity of the enterprise. This difficult system of communication of corporate strategic objectives with limited quantity of periodic economic indicators (are called as key performance indicators, KPI) is a basis of the concept of the Balanced Scorecard.
The BSC concept is comprehensive and often contains such KPI, as sales volume, receivables turnover, level of satisfaction of clients, efficiency of work, number of new clients, number of new regions of sale, etc. [14, p. 14, 30, 99].

All KPI should correspond to specifics of concrete business, besides among all “KPI library” enterprise value is allocated (or according to the system of a management, which was developed by S. Stern and based on economic value added, value is the general characteristic of observance efficiency of all KPI).

Unfortunately, introduction of a value approach in business management (including strategic value management) in Ukraine and other CIS countries occurs only since 2007 [15] and is urgency.

Research methodology

Works of such scientists, as Stegmann J. P. [1], Copeland T., Koller T., Murrin J., Stern S., Fedotova M. [16], Sherbakova N. [17], Staryuk P. [16] and others, are devoted to problems of corporate value management. However, in their works the place of strategic financial value management in a system of strategic management is insufficiently characterized, also all of only-financial methods of corporate value management isn't researched. The presented work is devoted to these questions.

The main goals of this article are to research the place of financial value management in strategic corporate management, to generalize the main targets of financial value management and methods, which are corresponding to them.

Value of the enterprise is defined by total cost of property and property rights which belong to it. Value is the most comprehensive indicator of working efficiency of the enterprise (including its financial condition, current risks and the perspectives of its development), therefore corporate value often changes under the influence of many economic factors. Among them there are:

1. factors of the internal environment:
   • competitive advantages of a product (are defined by its consumer qualities and efficiency of marketing policy as a combination of such components: pricing, advertizing, sale and aftersales service);
   • rate of the current innovativeness of production cycles of the
enterprise;

- efficiency of financing of economic processes (liquidity and solvency of the enterprise, ensuring financial balance by using budgeting of cash flows, efficiency of risk management);
- competitiveness of personnel;
- efficiency of transactions of the enterprise with suppliers;

2. factors of the external environment:

- development and observance of the sovereign legislation, and part of tax payments in enterprise expenses;
- degree of economic development of the country (currency policy of the central bank, dynamics of inflation, degree of the financial market development, etc.);
- capacity of the target market (GDP, competition level, purchasing power of the population);
- political stability in the country;
- climatic, seismic and ecological features of the country;
- degree of development of health care and other factors.

Also there are other classifications of value factors. For example, Stegmann J. P. allocates three key factors of share value of the enterprise: production resources (ability to direct investments into unique resources and into the intellectual capital, so minimizing the physical capital), market power of the enterprise (sum of ability to influence the prices and sales volumes with the main goal to rise own financial results, of ability to satisfy demand, of having the competitive advantages) and innovations, which are directed into own economic activity. Copeland T., Koller T. and Murrin J. agree with this opinion. We think, that these scientists define these factors as key factors because they can be easily measured.

Certain type of corporate value is subject of valuation and further management, this type depends on the main goals of corporate administration. Also to each type of corporate value corresponds unique complex of financial indicators:

1. fundamental and market value. These types are defined by using of some approaches:

- income approach: by using of economic value added (is defined by using of NOPAT, WACC and sum of the invested capital), sum of free cash-flow and return on equity (it can be calculated by using ratios of profit margin,
asset turnover, operational profitability, tax burden and percentage burden, financial leverage effect). Except the ROE, the WACC could be used as the discounting rate, or TSR rate could be used too (it could be defined by using dynamics of price of certain shares and their dividend profitability throughout the reporting period);

• market approach: by using of such financial ratios (for example, (corporate value)/(net assets), (corporate value)/(net earnings), (corporate value)/(net profit), etc.);

• asset based approach: by using a method of accumulation of net assets, the analysts define market value of corporate assets and the current value of corporate liabilities; the using of a method of replacement means the estimation of value of replacement of the property, the accumulated depreciation and value of the land, which stays in corporate ownership;

2. investment value (usually is defined by using of income approach, option approach or market approach with certain financial indicators);

3. liquidation or mortgage value as the sum of expenses for liquidation of corporate property minus the sum of corporate liabilities;

4. value for the taxation (it is calculated by using of asset-based approach or option approach, with certain financial indicators). Sometimes it's used for preparation of the unprofitable enterprise for M&A.

Usually market or investment values are used as target types of value of the developed business (because they are generalizing indicators of efficiency of managing and profitability of the investments enclosed in the enterprise). The absolute sum of value is influenced by the factors listed above, so the sum changes and stays under regular revision by using of the certain financial indicators. Some of such factors also could be fixed in financial strategy (aggregate capitalization of business or market price of shares, return on equity, etc.).

Strategy is a complex of actions which are executed for achievement of the approved medium-term and long-term goals of corporate development. Financial strategy is one of functional strategies of corporate development (Fig. 1); it includes the most effective directions of financial activity of the enterprise for achievement of its long-term financial targets; it includes the financial actions to prevent of more possible risks.

Fig. 1 shows that the enterprise with several economic activities has five levels of strategy. The highest level is market mission of the enterprise. Sladkevich V. [5, p. 10] isn't agrees with opinion of Blank I. [6, p. 24] and
allocates mission in separate level of strategy. As well as mission, corporate strategy covers all activities of the enterprise and provides definition of the most priority directions of corporate development (strategy of not-diversified enterprise coincides with its business strategy).

Creation of functional strategy occurs at level of structural divisions of the enterprise, the content of this strategy is coordinated with corporate strategy and business strategy. Blank I. tells that financial strategy is the most important strategy among the functional strategies of the enterprise, because only it determines the directions of supply of economic processes by financial resources and determines ways of their effective expenditure [6, p. 25].

Figure 1: Levels of the development strategies of diversified business (Source: made by the author on a basis of [5, p. 10; 6, p. 24])

Financial strategy consists of some components:

- analysis of market development, dynamics of last and forecast financial results of the enterprise;
- the list of the current and perspective financial requirements that is defined by investment strategy of the enterprise; information about the most acceptable structure of financial sources;
- information about a condition of corporate governance: about
dividend policy, about structure of securities which were emitted and sold in stock market, about total capitalization (market value) of issuer which depends on market price of its securities;

• the list of actions, which are directed for improvement of economic activity and achievement of target financial parameters.

The specified list means that financial value management is a part of corporate financial strategy and it includes actions on 1) regulation of conditions of formation and expenditure of corporate financial resources, 2) improvement of corporate governance (it comprises the relations with investors, planning of financial actions, which are directed for improvement of economic activity, and the analysis of their influence on corporate value). However financial value management excludes management of non-financial value factors, which are on a list on a top. Kulieva E. tells that forecasting of a future condition of the international financial market also is a financial method of value management of the international enterprises [7]. We think that forecasting of the future condition of the financial market is a complex of actions which aren’t directed on change of the external or internal environment of the enterprise. That’s why these actions can’t be a method of corporate value management.

Let’s define and characterize all possible groups of financial methods of corporate value management:

1) management of formation of financial resources:
   • minimization of expenses by introduction of system of its calculation and by introduction of system of operational financial management of cash flows. Among them there are ABC-analysis, direct-costing and budgeting;
   • minimization of tax expenses by management by a “tax shield”, including amortization and percentage expenses;
   • management by financial balance and solvency which prevents of penalties and fines. Usually it is realized by budgeting;
   • financial improvement of business which is realized by:
     • restructuring of accounts payable and other debt. These actions increase solvency and, as result, reduce threat of bankruptcy of the debtor, its market capitalization grows;
     • M&A. In that case, value of the enterprise depends on its financial condition and on strategic targets of both participants of process;
     • corporate reorganization by a partition. Influence of reorganization on corporate market value depends on features of economic divisions which are under separation, also it depends on further conditions
of their functioning (in case of further vertical or horizontal integration into structure of the same economic complex, or in cases of further sale or liquidation);

2) management of investment attractiveness of securities:
   • management of periodicity and volumes of dividends. There are five main types of dividend strategy of the enterprise: strategy of the fixed dividends (it is usually applied at issue of preference shares), strategy of residual dividend payments, strategy of the minimum dividend payments with non-regular extra charges, strategy of unstable volumes of dividends (in financial management is the most applied) and strategy of constant increase in volumes of dividends. Usually volumes of dividend payments are defined by the current stage of life cycle of business. In that case the generous dividend policy tells us about a stage of stable growth or a maturity of the enterprise, and, as a result, about a low level of the investment risks of its shares. These factors are combined with expectation of further large dividend payments, they increase dividend attractiveness of shares, so their market price and corporate market capitalization are increasing (as result, conditions of further involving of loans become better). On the other hand, low dividend payments minimize market price of shares and total capitalization of the enterprise, and as a result, threat of its acquisition by other enterprises increases.

a) dynamics of market price of PJSC “Ukrnafta” shares at the “Ukrainian Stock Exchange” (UAH);

b) dynamics of sales of PJSC “Ukrnafta” shares at the “Ukrainian Stock Exchange”, (mln. UAH)

**Figure 2:** Dynamics of market price of shares PJSC “Ukrnafta” since 08.2009 until 08.2012
As is shown on Fig. 2 a, b, expectation of dividend payment could raise mar-ket price of shares and could increase its sales volumes. For two years, until 26.01.2010, meetings of PJSC “Uknafta” shareholders didn't occur because of the corporate conflict between two large owners of the enterprise – NJSC “Naftogaz of Ukraine” and financial-industrial group “Privat”. That's why expectations of payment of dividends insignificantly affected market price.

However, next year the price of shares of the enterprise showed steady growth by 236 %, at the same time sales volume of shares grew in 5.11 times (Fig. 2, b). On 26.01.2010 was made the decision on record dividend payment from the sum of profit 2006-2008. It became the main reason of price growth before the following meeting of shareholders. On 25.02.2011 also the decision on payment of dividends from profit of 2010 was made;

- change of an organizational and legal form of the enterprise. Usually the administra-tion of the enterprise establishes restrictions on sale of shares because it is disinte-rested to involve new investors. Therefore, introduction of a private form of joint-stock company minimizes quality (rating) of corporate governance. As the result, in-formational and other closeness of the enterprise for the investment market, and im-possibility of purchase in the blocking minority ownership at the market, reduce market value of the issuer;

- management of investment attractiveness of shares through their split (increase in quantity of shares by proportional partition of value of each initial share) or return split. The low value of some shares can be a barrier to their release in stock market. Realization of return split in aggregate with increase in demand for shares could be a method of increasing of corporate capitalization and, as a result, of increasing of the market price of consolidated shares. In a case of split there are the same factors of in-creasing of corporate capitalization.

Realization of each of two methods can become the reason of changes in structure of owners which control the enterprise. It also can make a specific impact on market value of the enterprise;

- management of attractiveness of common shares by issue of convertible bonds or convertible preference shares. Influence of such actions on market value of the enter-prise is doubtless, however it is defined by individual conditions of corporate develop-ment;

- increasing of profit on financial operations, management of risks of corporate acqui-sition and control of market price of shares by a method of their purchase. The me-thod of minimization of a part of free-float in the
market allows:

• to secure the current owners of the enterprise against concentration of a blocking minority ownership at new participants;
• reduction of quantity of shares in the market causes the increase in market demand and, as result, increases their market price. The enterprises are interested to support market price because the high-capitalized enterprises have rather high credit ratings and have simpler access to direct investments and credit resources [8, p. 46]. In addition, gradual increase of the price stimulates market speculators to increase volumes of their investments;
• to increase number of investors and volumes of their investments. Issuers who are presented in the developed markets, differ from the Ukrainian enterprises by bigger share of strategic investors in structure of owners. In addition, strategic investors of foreign issuers often function in accompanying economic spheres [8, p. 40].

By such actions, the enterprises support liquidity of own shares and can involve additional large volume of financing from short-term investors (mutual funds, banks, insurance companies and other active participants of stock market). Therefore, systematic monitoring and support of level of market price can essentially increase enterprise capitalization. For example, OJSC “Lukoil” (Russian Federation) actively uses options for purchasing of own shares in the market (since 2010 the enterprise spent more than five billion US dollars for purchase of 11.25 percent of own shares; OJSC “Lukoil” plans to 2015 to make secondary sale at the Hong Kong stock exchange [9; 10]);
• to increase volume of profit because it is a component of net financial sources. As a result corporate value would grow. The enterprises can sometimes get additional profit by purchase of own securities at the price, which is below than their price at the moment of sale. For example, in the middle of 2012 European banks actively bought mortgage bonds which were emitted by them earlier. In the conditions of global financial crisis they were encouraged to buy up securities at greatly reduced market quotations than the price at the moment of their first sale [12];

3) management of financial resources:
• attraction of the subsidized debt. The subsidized debt, as well as subordinated, is separate form of a privileged loan. The using of the subsidized debt provides the cheaper percentage payment. Limitovskiy M. [11, p. 38] developed the most simplified approach according to which the additional corporate value is a result of attraction of the subsidized debt:
\[ V = V_U + VTS + VLS \]

\( V_U \) – value of net assets of the enterprise, \( VTS \) – total value of tax shield, \( VLS \) – value of additional benefits of the enterprise as a result of attraction of the subsidized debt;

- additional issue and sale of shares. These operations could be the reason of great changing of control over the enterprise due to loss of control by shareholders which have no money to purchase additional emitted shares. In this case market value of the enterprise increases by the sum of additional emitted and sold shares. At the same time the price decreases together with falling of quality (rating) of corporate governance;

- additional issue and sale of bonds. During of increasing of a long-term debt the market capitalization of the enterprise becomes minimum. This case is presented in formula [13, p. 56]:

\[ MC = EV - ND = EV + C - D, \]

\( MC \) – market capitalization of the enterprise, \( EV \) – economic value or market value of the invested capital (MVIC), \( ND \) – net market value of corporate long-term debt, \( C \) – highly liquid assets, \( D \) – market value of corporate long-term debt (the sum of a long-term debt before its payment for the current year).

Methods which are specified above, are intended for change of conditions of formation of corporate financial resources or expenditure of them, and make the certain impact on corporate value. All these methods are the integral elements of system of financial value management and can be used for achievement of the operative and strategic goals of corporate development.

**Conclusions**

Thus, research yielded some results:

1. Value of the enterprise is a generalizing indicator of efficiency of its development because it is formed under the influence of many financial and other factors.

2. Strategy of corporate development defines target type of corporate value. A certain group of financial factors corresponds to each type of target value (for example, strategy of minimization of value for the taxation provides...
increasing of tax shield, including amortization and percentage payments; maximizing of investment value is provided with in-crease in net financial resources).

3. Value management is an element of functional financial strategy of the enter-prise and is provided by using of three groups of financial methods: management of formation of financial results, management of investment attraction of securities, management of formation of financial resources.

References


Knowledge Based Economy Assessment

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The importance of knowledge-based economy (KBE) in the XXI century is evident. In the article the reflection of knowledge on economy is analyzed. The main point is targeted to the analysis of characteristics of knowledge expression in economy and to the construction of structure of KBE expression. This allows understanding the mechanism of functioning of knowledge economy. The authors highlight the possibility to assess the penetration level of KBE which could manifest itself trough the existence of products of knowledge expression which could be created in acquisition, creation, usage and development of them. The latter phenomenon is interpreted as knowledge expression characteristics: economic and social context, human resources, ICT, innovative business and innovation policy. The reason for this analysis was based on the idea that in spite of the knowledge economy existence in all developed World countries a definitive, universal list of indicators for mapping and measuring the KBE does not yet exists. Knowledge Expression Assessment Models are presented in the article.

Keywords: knowledge; knowledge expression; knowledge-based economy; characteristics of knowledge expression in economy; instrument for knowledge expression assessment.

Introduction

We can observe in the present the appearance of a new economy-knowledge based economy. This economy is an economy based on knowledge and ideas, in which the key factor of prosperity and economic growth is the superior knowledge capitalization. This is why today the knowledge is considered to be the driving force of the economic growth, productivity
growth and a resource that can offer a sustainable competitive advantage. For this reason in the present we can see a big interest for knowledge economy, knowledge, knowledge, information and technology and their role in the economic growth. For this reason in the present paper it is presented the concept of knowledge based economy, its characteristics and the main frameworks to asses it.

The knowledge economy differs from the traditional economy in several key respects:

• The economics is not of scarcity, but rather of abundance. Unlike most resources that deplete when used, information and knowledge can be shared, and actually grow through application.

• The effect of location is diminished. Using appropriate technology and methods, virtual marketplaces and virtual organizations can be created that offer benefits of speed and agility, of round the clock operation and of global reach.

• Laws, barriers and taxes are difficult to apply on solely a national basis. Knowledge and information ‘leak’ to where demand is highest and the barriers are lowest.

• Knowledge enhanced products or services can command price premiums over comparable products with low embedded knowledge or knowledge intensity.

• Pricing and value depends heavily on context. Thus the same information or knowledge can have vastly different value to different people at different times.

• Knowledge when locked into systems or processes has higher inherent value than when it can ‘walk out of the door’ in people’s heads.

• Human capital competencies are a key component of value in a knowledge-based company, yet few companies report competency levels in annual reports. In contrast, downsizing is often seen as a positive ‘cost cutting’ measure.

Taking into consideration the structure of the research, I considered necessary to review the specialized literature in relation with the knowledge based economy.

A. B. Jones[1] considers that knowledge based economy represents “the fundamental changing from the economy based primordially on the physical resources to the economy based primordially on knowledge” The wealth and power in the XXI century will devolve primordially from the intangible
intellectual resources, from the knowledge capital. Thus, this transition to the economy based on knowledge represents a comprehensive and profound process which generates major changes in the components of the economic activities.

Today the term of „knowledge society/ economy” it is utilized in the whole world. This term it is an abbreviation of the term knowledge-based society/ economy. If we will search on the internet „knowledge society/ economy” we will find thousands of references. Recently, the review DEUTSCHLAND dedicated a special number for the „knowledge society. Nico Stehr remarks “Social order which is under the horizon it is based on knowledge [...]. The volume of knowledge which we can use it has doubled at every five years. If we will wonder which is the effect of the actual transition from the industrial society to the knowledge society, upon the employees and companies, upon the politics and democracy, shortly upon our organizational principles regarding the way of living, than it is justified to talk about the way we will live in the knowledge society”. [2]

The specialists’ opinions regarding the definition of the knowledge based economy or new economy are different from one to another. For example Daniela Archibugi and Bengt Aké Lundvall in “The Globalizing Learning Economy” approach the new economy from the perspective of the information society and internationalization and define the new economy as “a economy more dominated by the global influences and by the speed, often in real time, of the communications and information, no matter what the distance. [3]

Nicolescu O. synthesizing the definitions from the specialized literature, considers that “the knowledge based economy is characterized by the transformation of the knowledge in base material, capital, products, production factors essentials for the economy and through economic processes in which the generation, selling, acquisition, learning, stocking, developing, splitting and protection of the knowledge became predominant and decisive for the profit obtaining and for the assurance of the economic sustainability on the long term”. [4]

Also, a number of international organizations and institutions were and are interested by the concept of knowledge based economy and by the tendencies manifested within the framework of this new type of economy. Thus, OECD considers that „the knowledge based economy represents the type of economy based directly on the knowledge and information production, distribution and utilization” [5]. In the same time the knowledge are recognized
as a “driver of productivity and economic growth, leading to a new focus on the role of information, technology and learning in economic performance”. [5]

Expanding the OECD definition of the knowledge-based economy, the executive committee of APEC considers that “the production, distribution and the fructification of the knowledges is the main driver of economic growth, wealth, creation and employment at all industries levels” [6]. Conform to this definition, knowledge based economy it is not based only on few high technologies industries for the economic growth and wealth creation. They consider that all economic sectors can be knowledge intensive. So, the executive committee of APEC considers that “all the knowledges required by the knowledge based economy are wider than technological knowledges, and for instance include cultural, social and managerial knowledges”. [6]

In 2002 European Commission published the paper “Towards a knowledge-based Europe- The European Union and the information society”. Starting from the EU goal- “to become the most competitive knowledge based society in the world by 2010” they establish the action plans for the period till 2010. EU considers that „The EU’s success in achieving this goal will help determine the quality of life of its citizens, the working conditions of its workers and the overall competitiveness of its industries and services”. [7]

World Bank and OEDC had cooperated and cooperate in their activities to create knowledge based economies, being helped in their effort also by the transition countries. In the opinion of Carl Dahlman, manager of the program knowledge for development from the World Bank Institute: “to benefit from the knowledge revolution are necessary clear strategies which can satisfy the 4 pylons of knowledge economy:
- An institutional and economic framework which promotes the knowledges efficient utilization
- An educated population for the creation and utilization of the knowledge
- A dynamic information infrastructure
- An efficient innovation system within the organizations and research centers which can satisfy the people new desires”. [8]

Thomas Stewart considers that knowledge based economy has in view, because it is an economy, the money, in the context of knowledge acquisition, production and selling. In his opinion the fundamentals of the knowledge based economy, which are the essence of this new type of economy, are:
- The knowledge become the content of acquisition, production and
selling processes

• The knowledge assets, intellectual capital components, had become more important than financial assets or technical-materials assets

• Knowledges and intellectual capital fructification, the obtaining of prosperity within the market economy requires a new terminology, new managerial methods and techniques, new technologies and not in the end new strategies. In other words, knowledge based economy, „as a new type of economy requires a new type of management - knowledge based management and a new type of organization – knowledge based organization. [9]

Stewart underlines the fact that in knowledge based economy remains essential the economic factor, reflected in the situation in the fore-ground of the economic performances. What it is changed it is the fundament of economic performances achieving, these being achieved through the superior fructification of the existing knowledges.

World Bank Framework

In 1999 the World Bank Institute launched a project entitled “Knowledge for Development” (K4D). Its aims were to raise awareness among national policymakers about the powerful growth effects of knowledge and to encourage economists to combine global and local knowledge in order to accentuate comparative advantages. [10]

It has been determined that successful transition to the knowledge economy often includes four elements: long-term investments in education, the development of innovation capability, the modernization of the information infrastructure and the creation of a conducive economic environment. The World Bank has set these elements as the four pillars of the knowledge economy within the Knowledge Economy Framework. These pillars are [11]:

• An economic incentive and institutional regime that provides good economic policies and institutions that permit efficient mobilization and allocation of resources and stimulate creativity and incentives for the efficient creation, dissemination and use of existing knowledge;

• Educated and skilled workers who can continuously upgrade and adapt their skills to efficiently create and use knowledge;

• an effective innovation system of firms, research centers, universities, consultants and other organizations that can keep up with the knowledge revolution, tap into the growing stock of global knowledge and assimilate and
adapt it to local needs;

- *a modern and adequate information infrastructure* that can facilitate the effective communication, dissemination and processing of information and knowledge.

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<td>Economic and institutional regime</td>
<td>Education and skills</td>
<td>Information and communication infrastructure</td>
<td>Innovation system</td>
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<td>The country’s economic and institutional regime must provide incentives for the efficient use of existing and new knowledge and the flourishing of entrepreneurship</td>
<td>The country’s people need education and skills that enable them to create and share, and to use it well.</td>
<td>A dynamic information infrastructure is needed to facilitate the effective communication, dissemination, and processing of information.</td>
<td>The country’s innovation system—firms, research centers, universities, think tanks, consultants, and other organizations—must be capable of tapping the growing stock of global knowledge, assimilating and adapting it to local needs, and creating new technology</td>
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**Figure 1:** The four pillars of the knowledge economy [11]

The Knowledge Economy Framework postulates that the amount of knowledge and how it is used are key determinants of total factor productivity (TFP).

Strengthening the four pillars of the knowledge economy will lead to an increase in the quantity and quality of the pool of knowledge available for economic production in any country. This in turn will increase productivity and, thus, economic growth [12]. The World Bank Institute has developed the Knowledge Economy Index (KEI), as well the Knowledge Index (KI), for ranking countries. Both are presented in Figure 2.
Figure 2: Knowledge Economy Index (KEI) and the Knowledge Index (KI)

The KAM Knowledge Index measures a country’s ability to generate, adopt and diffuse knowledge. This is an indication of the overall potential for knowledge development in a given country. Methodologically, the KI is the simple average of the normalized performance scores of a country or region on the key variables in three of the knowledge economy pillars – education and human resources, the innovation system and ICT. The Knowledge Economy Index takes into account whether the environment is conducive for knowledge to be used effectively for economic development. It is an aggregate index that represents the overall level of development of a country or region in relation to the knowledge economy.

Calculation of the KEI is based on the average of the normalized performance scores of a country or region on all four pillars of the knowledge economy -economic incentive and institutional regime, education and human resources, the innovation system and ICT. [12]

Figure 1 shows the four pillars of the knowledge economy with three key variables, representing each pillar. In calculating the KEI and KI indices, as well as the indices of the four pillars of the knowledge economy, the World Bank ranks countries according to a single model of building a knowledge-based economy which it applies to all countries.
However, each pillar consists of a large number of knowledge economy indicators (i.e., variables) collected according to the KAM:

**The Economic Incentive and Institutional Regime**
- Tariff & Nontariff Barriers
- Regulatory Quality
- Rule of Law

**Education and Human Resources**
- Average years of schooling
- Secondary Enrollment
- Tertiary Enrollment

**The Innovation System**
- Royalty and License Fees Payments and Receipts
- Patent Applications Granted by the US Patent and Trademark Office
- Scientific and Technical Journal Articles

These three variables are available in two forms: scaled by population and in absolute values. Thus, both KE and KIE are also available in “weighted” and “unweighted” forms. In innovation, absolute size of resources matters, as there are strong economies of scale in the production of knowledge and because knowledge is not consumed in its use.

**Information and Communication Technology (ICT)**
- Telephones per 1,000 people
- Computers per 1,000 people
- Internet Users per 10,000 people

**APEC framework**

The APEC framework was developed as part of a project commissioned by the APEC Economic Committee in mid-1999. The title of the project was *Towards Knowledge-based Economies in APEC* and was progressed by a specially created KBE Task Force, members of which included Australia, Canada and Korea. The aim of the project was to “provide the analytical basis useful for promoting the effective use of knowledge, and the creation and dissemination of knowledge among APEC economies”[13].

The project entailed the examination of empirical evidence and concluded that economic growth is most sustainable for those economies which are strong in all of the following four dimensions (findings of the OECD Growth Project analyzed and cited in the APEC Economic Committee report):
“Innovation and technological change are pervasive, and are supported by an effective national innovation system.”

“Human resource development is pervasive: education and training are of a high standard, widespread and continue throughout a person’s working life.”

“An efficient infrastructure operates, particularly in information and communications technology (ICT), which allows citizens and businesses to readily and affordably access pertinent information from around the world.”

“The business environment is supportive of enterprise and innovation.”

These four dimensions form the basis of the APEC KBE framework:

- Innovation System
- Human Resource Development
- ICT Infrastructure
- Business Environment.

**OECD framework**

The OECD has made a significant contribution to research on the Knowledge-based economy. Its work has evolved from a long history of developing and publishing science and technology indicators. In 1996, the OECD published *The Knowledge-based Economy* [14], an early attempt to compile statistical indicators on the KBE. It published another compilation in 1999 and in 2000 started releasing results from the two-year Growth Project. The impetus for the project was to discover the causes underlying differing economic growth of member nations during the 1990s.

The final Growth Project report, *The New Economy: beyond the Hype* [15], was released in mid 2001. The report emphasized:

- the importance of a stable and open macro-economic environment with effectively functioning markets;
- the diffusion of ICT;
- fostering innovation;
- investing in human capital; and
- stimulating firm creation.
Australian bureau of statistics framework

The proposed ABS framework draws on work done by a number of organizations and individuals. In particular, it builds on work of the APEC Economic Committee and the OECD Growth Project.

The ABS proposes a framework model with five dimensions[16]. There are three core dimensions as follows:

* Innovation and entrepreneurship
* Human capital
* Information and communications technology

In addition there are two supporting dimensions: a Context dimension and an Economic and social impacts dimension. Within each dimension are characteristics; indicators are chosen to provide measures of the characteristics.

A highly simplified diagrammatic representation of the dimension structure of the framework is shown in figure 3. It shows the context dimension as being pervasive, the three core dimensions as overlapping and the Economic and social impacts dimension as being affected by both the context and the three core dimensions.

![Simplified dimension structure of the proposed ABS Knowledge-based economy/Society Framework](image)

**Figure 3:** Simplified dimension structure of the proposed ABS Knowledge-based economy/Society Framework [16]
Each of the dimensions is described in terms of a number of characteristics. A characteristic is an aspect of a dimension which has been used to both further describe the dimension and to give it some structure by splitting it into more understandable elements. Most characteristics are populated by one or more statistical indicators.

The context dimension includes a number of economic, social, cultural, legal, political, environmental and global factors which may stimulate, or act as preconditions for, a successful KBE/S.

The proposed characteristics of this dimension include:
- Macro-economic factors (such as economic performance including monetary and fiscal macro-economic management to encourage stability of output growth, short-term interest rates and prices).
- Social and cultural factors. These include a wide range of societal characteristics and structures, for example, social capital, age structure of the population, health status, crime levels and income distribution.
- Product, financial and labour markets.
- Openness (an economy’s openness and international orientation).
- Legal and regulatory frameworks.
- Political institutions and transparency.

Innovation and entrepreneurship dimension includes the support for, and performance of, innovative and entrepreneurial activities within the economy.

Proposed characteristics of the dimension are:
- Research base and potential for knowledge creation. This characteristic deals mainly with the performance of basic research, research in relatively new fields and research by small and medium enterprises.
- Knowledge creation with commercial potential (this includes invention and patenting activity).
- Other knowledge creation.
- Knowledge networks and flows. This refers to sharing and dissemination of knowledge within firms, and between firms and other organizations (other firms, government and education organizations). It includes cross border flows of knowledge.
- Innovation. This characteristic covers the introduction of new or improved products or processes by businesses and non-technological innovation.
- Entrepreneurial activity. This characteristic refers to the creation of
new, fast growing businesses.

- Support for innovation (support for R&D and provision of venture capital funding).

**Human capital dimension**

The skills and knowledge of people living in a society are clearly of central importance to its development as a knowledge-based economy and society.

The stock of human capital is reflected in the level of skills, competencies and knowledge of members of society. The stock is built up over time mainly through investment in education (public and private expenditure on education and training). A KBE/S framework is therefore concerned with education and training inputs, both formal and informal, as well as outputs in terms of the resulting skills and abilities of the population.

Proposed characteristics of the dimension are:

- Stock of skilled people (information about the education and skill levels of the population and the potential stock of qualified people).
- Flow of skilled people (this characteristic looks at knowledge workers, the level of educational attainment of the labour force, the extent of employer training and human capital loss/gain from the economy).
- Investment in human capital (refers to expenditure on education and training by government and business).
- Lifelong learning and access to education and training.

**Information and communications technology**

Information and communications technologies (ICTs) are enabling technologies of a KBE/S. They are vital tools for knowledge workers, allowing them to take full advantage of technology’s capacity to access, manipulate and process information. ICTs are also an integral part of education, offering students access to information as well as a range of IT based learning tools. Some commentators argued that a strong ICT production sector is essential for a KBE/S. However work by the OECD suggests that the pervasiveness of ICT use within an economy and society is more important than the production of ICT goods and services (OECD 2000b).
Proposed characteristics of the dimension are:

• ICT infrastructure and access. This characteristic considers the ICT infrastructure in place and its availability and cost to members of society.

• Household and individual use of ICT (looks at the extent of use of ICT and the ways it is being used by members of society for particular purposes and activities).

• Business and government use of ICT (examines the penetration of ICT into business and government processes).

• Prevalence of electronic commerce. This characteristic looks at business and individual use of the Internet, and other computer mediated networks, for buying and selling goods and services.

• ICT skill base (refers to the share of ICT workers in the labour force as well as covering skill shortage issues).

• Strength of the ICT industry. This characteristic describes aspects of ICT industries in Australia. In particular, it looks at revenue growth, contribution to value added and employment, R&D expenditure and trade in ICT goods and services.

Economic and social impacts dimension

This dimension deals with the effects on the economy and society of an increased emphasis on, and use of, knowledge. As such, the dimension seeks to inform how ‘intermediate’ KBE/S outcomes impact on broader measures of economic and social progress. (The ‘intermediate’ KBE/S outcomes are reflected under each of the three core dimensions.)

Proposed characteristics for this dimension are:

• Economic and structural change (change in productivity, industry structure and trade).

• Social change.

Conclusions

The in the present paper it is highlighted that knowledge based economy is the result of economic development based on knowledge management as a harmonized system of legal and economic prerequisites and managerial as well as economic mechanisms, modern technologies and human resources, the system resulting from development of market economy and different technologies, in particular, information technologies.

In the article are presented several knowledge based economy
assessment framework developed by different international organizations. Each framework it is characterized by a number of dimensions, each dimension being characterized by a number of characteristics. In other words, knowledge expression assessment could be carried out by establishing the penetration extent of knowledge-based economy characteristics. Therefore, the preconditions of formation of knowledge based economy and factors are constructed as the characteristics of knowledge expression.

References

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Correlation Between Government and Economic Growth - Specific Features for 10 Nms

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The impact of fiscal policy on economic growth is a complex and contradictory topic in finance debates. Government influences real economy through the impact of public revenues and expenditures on the quantity and quality of production factors, labor and capital. High taxation for supporting big public sector can impede growth. On the other hand, some of the public expenditures can stimulate growth. This opposite effects of the public sector’s intervention through fiscal policy rise the debate about the performance of public sector in stimulating economic growth. The aim of this paper is to analyze the differences between developed UE countries and former communist EU countries regarding the public sectors and economic growth.

Keyword: fiscal policy, size of public sector, quality of public sector, economic growth

JEL Classification: E62, H11, O10

Introduction

The economic growth process and its determinant factors represent a topic of interest both for theoretical and empirical research. The interest is primarily justified by the observation of the increasing of living standards in time but also by the existence of major differences in living standards between countries.

The economic growth process can be assimilated to the improvement of the quality of life indicators through a more efficient use of economic resources. Commensuration of the economic growth is achieved through specific indicators related to gross domestic product (GDP), for example by
increasing in GDP per capita or through the growth rate of real GDP.

These determinant factors act through the effects they produce on the quantity and quality of factors of production:

- **factors of production – physical and human capital** - between economic development and production factors’s quantity and quality there is a direct, intense and bidirectional relationship.

Both exogenous and endogenous growth theories support the importance of the production factors for stimulating economic growth. Physical capital is the key element in the theoretical and empirical foundation for the differences in living standards in time. Empirical results sustain this correlation – see, for instance, Turner, Tamura and Mulholland (2008); Hall and Jones (1999); Barro (1991)

Gherghina, Ion, Nicolae (2011) studied the influence of human capital on economic growth as the link between the two is obvious: human capital through education contributes to society and the quality of education depends on the level of development.

- **capital market development** - Graff (1999) argues the possibility of four types of causal relationships between financial development and economic growth: (a) financial development, the result of development of financial institutions, and economic growth, the result of real factors, are not directly correlated, (b) economic growth, through the effects of change and development of financial institutions, has effects on the development of the financial sector, (c) financial development leads to economic growth, a phenomenon that is supported by the fact that financial development is a necessary condition for achieving economic growth, by the fact that financial development encourages economic growth, (d) financial development impedes economic growth due to potential adverse effects caused by financial crisis. For empirical test of this correlation see King and Levine (1993); Carlin and Mayer (2003); Garretsen, Lensink and Sterken (2004), Beck, Lundberg and Majnoni (2006), Bose (2005), Claessens, Klingebiel and Schmukler (2006); Obreja Braşoveanu, Dragotă, Cataramă and Semenescu (2008)

- **institutional factors, government policies, macroeconomic and political stability, income distribution** - the importance of institutional factors, government policies adopted, political and macroeconomic stability, income distribution in the economic growth process is given by the role of these factors on the real economy. The direct relationship between these factors and economic growth is given by the effect on private initiative to engage in
productive activities, given by the safety and security of the investment and by the ownership right. There are also empirical tests for this correlation – see, for instance, Helliwell (1992); Minier (1998), Agenor and Montiel (1999); Obreja Braşoveanu (2007); Alesina and Perotti (1997); McDermott and Wescott (1996); Segura-Ubiergo, Simone and Gupta (2006); Roubini and Sachs (1989); Beldacci et al. (2004); Mulas-Granados (2005). Braşoveanu (2011) identified the important aspects of tax evasion in Romania.

These are the main channels throughout the economic growth might be stimulated. Those who act in the sens of generating economic growth are from private but also public sectors. The scope of this article is to analyze the impact of the public sector's size and quality on the economic growth process.

The paper is structured as follows: in section 2 there is a short literature review regarding the impact of the public sector, through expenditures, revenues and governance, on the economic growth; section 3 contains the empirical study – the correlation between public sector and economic growth, by panel regressions, cluster and quantile analysis, and section 4 concludes.

Literature review

In order to determine the important channels through which public revenues and expenditures, may affect economic growth, we consider the production function.

The channels of influencing the economic growth consist of policies that (1) increase capital per labour – public sector might finance the public activities in a way that minimize the possible distortions over the demand or supply of capital and labour - (2) increase the productivity (quality) of capital – public sector might offer social and economic infrastructure that facilitate private sector’s activity - and (3) increase the productivity (quality) of labour – public sector might invest in capital and labour only when it complete private sector’s activities, situation that is necessary because of the externality or market imperfections.

In order to stimulate the economic growth through fiscal policy, the state has more instruments (for more details, Obreja Braşoveanu (2007)):

(a) financing of direct investments, which the private sector would not provide in adequate quantities;
(b) efficient supply of certain public services which are necessary to ensure the basic conditions for economic activity and long-term investments;
(c) financing of public activities in such a way that minimizes the distortions generated in the economy (on the private sector's decisions to spend and invest).

Theoretical background offers arguments for both positive and negative relationship between public expenditures and economic growth. Arguments that sustain a positive correlation between public expenditures and economic growth are:

(a) research and development in public sector

Research and developments in public sector may have positive effects through externalities on the private part of economy. Public spending create social infrastructure and other forms of public goods. Public research expenditures may also create technological innovations with broader applicability, enhancing economic growth.

In the less developing countries, public expenditures may help in creating a socioeconomic structure conducive to growth, expenditures for research and development provide technical skills, educational training and create an infrastructure necessary for economic development.

(b) demand

The effect is positive through an expansion of aggregate demand (Keynesian effect), the increased demand leads to an increase of utilization the idle capital, higher employment and profits, therefore higher investment, all of which cause economic growth.

Public expenditure may be considered a tool of fiscal policy and can therefore be increased to stimulate demand or decreased to dampen demand. This impact depends on the multiplier effect, assuming there is not a corresponding increase in taxation to finance the spending and the extent of crowding out caused by the spending.

(c) labour

Public spending may increase the skill set of the used labour force through training and education. It has a growth-stimulating effect if it moves the economy closer to full employment, creates human capital, promotes stability, and provides infrastructure.

It is often argued that expenditure for training in developing countries may contribute to improving the educational level of the labor force and may act as a stabilizing influence in the society.

(d) investment

Capital expenditure can have productive uses: private sector benefits
from the transport networks that are originally constructed for public purposes. Investment in public sector generates positive externalities for the private sector, like public infrastructure development, technology spillovers and human capital formation.

Arguments that sustain a **negative correlation** between public expenditures and economic growth are:

(a) crowding out effect

Public spending can have an adverse effect on economic growth by crowding-out private investment - higher public spending generates a distortion in resource allocation and the diversion of resources from productive activities.

The extent and form of crowding out effects of an increase in public spending will depend on prior utilization and how the increase is financed.

(b) opportunity cost

Trying to explain the negative correlation between public expenditure and growth, economists focus on the opportunity cost of the different categories of expenditures, expenditures hinder economic development by reducing savings and misallocating resources away from more productive use in the public or private sector. In the same context, R&D in the public sector may divert R&D from the private sector where it may receive more practical application.

(c) increased taxation

The government budget constraint requires that an increase in public expenditure might be financed by increased taxes, increased borrowing. The way the increase of public expenditure is financed will have further effects, which feeds back on the economy.

Public expenditure if it is financed by nondistortionary revenues has a positive effect on economic growth; if it is financed by distortionary revenues, it might have a positive or negative effect on economic growth, depending on the level of the public expenditure.

(d) efficiency of resource allocation

Another channel by which public expenditures may affect the economic growth is through their direct impact on the efficiency of resource allocation. Public expenditure is not governed by market processes, so it tends to create distortions in relative prices. Policies implemented to support a public expenditure program might be detrimental to efficient resource allocation and economic growth.
(e) increase the political power of the public sector

In order to be reelected, political parties tend to make time-inconsistent fiscal policy and higher deficits and “bigger” public sector.

In the context of analysing the impact of public expenditures and revenues on economic growth, Barro, Sala-i-Martin (1995) proposed the distinction between:

• distortionary – nondistorsionary fiscal revenues, according to their effects over the decisions of the private agents (distortionary fiscal revenues contain personal income taxes, corporate income taxes, social security contributions, property taxes; nondistortionary fiscal revenues contain value added tax, excise duties). The correlation pattern between the real rate of growth of the GDP and these two categories of income reveals a link of positive causality between the economic growth and non-distortionary taxes and negative between the distortionary taxes. Theory and empirical evidence support the distortional character of some categories of taxes (income, capital and profit taxes) and undistortional character by those taxes and duties that do not generate changes in relative prices (value added tax, customs duties).

• productive and unproductive public expenditures, according to their effects over the productivity of the private agents’ actions (productive expenditures contain general public services, defence, public order, national security, education, health, housers, environment, transport and communication; unproductive expenditures contain social assistance, culture, religion, economic activities). The theory of economic growth suggests that changes from productive spending to the unproductive one hinder the economic growth. Public expenditures have an impact on economic growth through its influence on the average level of the quality of the labour and on the productivity of capital employed; the positive effects on economic growth are recorded only if the public sector activities are complementing, not competing, with the private sector activities. Theory and empirical evidence support the stimulation of economic growth through public spending for education, health, research and development, capital expenditures.

The effect on economic growth of budgetary revenues and expenditures might consider the connections between budgetary revenues, budgetary expenses and fiscal deficit: financing the productive spending by non-distortionary income might have a positive impact over the economic growth, while the financing distortionary taxes has ambiguous effects; the unproductive spending financed by distortionary taxes have unclear
effects, while the financing by means of non-distortionary taxes implies no consequence.

The effects of fiscal policies on economic growth depend also on the quality of the public sector. Afonso, Ebert, Schuknecht, Thone (2005) consider that fiscal policy's quality and supporting-growth character are given by: providing an institutional environment that stimulates economic growth and sound public finances, limiting commitments to the essential role of providing public goods and services, setting growth promoting incentives for the private sector and using efficiently the public resources, financing public activities by an efficient and stable tax system, supporting macroeconomic stability through stable and sustainable fiscal policies.

The size of the public sector is a reflection of current and past political choices. Empirical studies support the idea that when public sector becomes “too big”, the economic growth is negatively affected, and there are also present higher tax burden and inefficiency of the public administration. On the other hand, there are empirical cases of big or small public sectors that achieve similar economic growth. In this context it is very important to consider the public governance – Kaufmann, Kraay, Mastruzzi (2004) construct indicators for six aspects of governance: voice and accountability (the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and free media), political stability and absence of violence (perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including political violence and terrorism), government effectiveness (the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies), regulatory quality (the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development), rule of law (the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence), control of corruption (the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests).

In this context the direct effects of public revenue and expenditure on economic growth, but also taking into account the indirect effects through
the impact on production factors, on the institutional factors, on government policies, macroeconomic and political stability, on income distribution, the governance factor becomes of a relevant importance.

In the next section we test the correlation between the size and the quality of public sector on economic growth, using a panel data, consisting in EU countries but also separately in former communist EU countries.

**Empirical study – testing the correlation between the size and the quality of public sector and economic growth**

In this section I test the correlation between the size and the quality of public sector and economic growth in European Union context.

I use the real gross domestic product growth rate, gross domestic product growth per head of population and logarithm of the gross domestic product growth per head of population to comensurate economic growth process.

The variables that I use for the size of the public sector are total public expenditure and total current revenue on gross domestic product.

For the quality of the public sector I use specific categories of public expenditures on gross domestic product (education, health, housing and community amenities, public order and safety, recreation, culture and religion, social protection, general public services, environment protection, economic affairs, defence), productive and nonproductive expenditures (as suggested Barro), governance indicators (voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, control of corruption) and corruption perception index.

The variables, notations and sources are below:

**Variables:**

**Economic growth variables:**

growth = real GDP growth rate  (data source: AMECO)
gdppc = GDP per head of population  (data source: AMECO)
loggdppc = \log(gdppc)  (data source: AMECO)

**Budgetary variables:**

exp = total expenditure –  

general government / GDP  (data source: AMECO)

rev = total current revenue –
general government / GDP (data source: AMECO)
edu = education public expenditures / GDP (data source: AMECO)
health = health public expenditures / GDP (data source: EUROSTAT)
house = housing and community amenities / GDP (data source: EUROSTAT)
order = public order and safety / GDP (data source: EUROSTAT)
recreation = recreation, culture and religion / GDP (data source: EUROSTAT)
social = social protection / GDP (data source: EUROSTAT)
services = general public services / GDP (data source: EUROSTAT)
environment = environment protection / GDP (data source: EUROSTAT)
economic = economic affairs / GDP (data source: EUROSTAT)
defence = defence / GDP (data source: EUROSTAT)
expprod = productive expenditures / GDP (data source: EUROSTAT)
expprod = nonproductive expenditures / GDP (data source: EUROSTAT)
Governance indicators:
govva = governance indicators - Voice and Accountability (data source: World Bank)
govps = governance indicators - Political Stability (data source: World Bank)
govge = governance indicators - Government Effectiveness (data source: World Bank)
govrq = governance indicators - Regulatory Quality (data source: World Bank)
govrl = governance indicators - Rule of Law (data source: World Bank)
govcc = governance indicators - Control of Corruption (data source: World Bank)
gov = average of the governance indicators (data source: World Bank)
cpi = corruption perception index (data source: Transparency International)

The countries that I use for panel data are

• UE27: AT, BE, BG, CY, CZ, DK, EE, FI, FR, DE, EL, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE, UK.
• 10 NMS – the former communist UE countries: BG, CZ, EE, HU, LT, LV, PL, RO, SI, SK.

I analyze the correlation between public sector and economic growth
using both panel data, because I intend to identify the differences between capitalist economies and former communist countries. The descriptive statistics for the panels I used give some general impression about the differences between developed and emerging countries: average loggdppc is lower in the emerging countries, and so are average public expenditures and revenues; growth has higher average value in emerging countries, this aspect supports the idea of convergence process and catching up theory; public expenditure, both productive and nonproductive, have lower levels in emerging countries, due to the limited public resources; governance indicators, corruption perception index put the emerging countries in an inferior position.

In the next figure there are the average values for the period 1990-2012 for public expenditures (x axis), public revenues (y axis) and economic growth (GDP per capita – bubble’s size).

![Figure 1: Public expenditure, public revenue and economic growth – average values for 1990-2012 Data sources: EUROSTAT, AMECO](image)

Most of the NMS countries are placed in the left-down corner of the grafic, with the lowest size of the bubble, showing the problems with the economic growth and limited capacity to collect revenues.

In the following table, there are the results of the regressions for economic growth with the most significant independent variables. The dependent variable is the level of economic growth, measured by loggdppc, and the dynamic of economic growth, measured by growth. The independent variables are public expenditures, governance indicators, corruption perception...
index, productive and nonproductive public expenditures, and specific categories of public expenditures.

Table 1: Results of pool regressions – panel data

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<th>independent variables</th>
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Correlation Between Government and Economic Growth
- Specific Features for 10 Nms

| environment  | -3.203522 | -3.127444 |
| economic    | -0.629669 | -3.121894 |
| defence     | 1.444285  | 2.896534 |
| Loggdppc    | health    | 0.049569  | 5.264182 | govge | 0.249059 | 4.110425 |
|             | recreation | 0.132437  | 3.754048 | govrq | 0.451956 | 6.038363 |
|             | social     | -0.009164 | -2.018906 | edu   | -0.064609 | -2.233217 |
|             | services   | -0.031549 | -4.866985 | health | 0.045489 | 2.721509 |
|             | environment| 0.209177  | 6.278727 | services | -0.033188 | -2.985483 |
|             | economic   | -0.014273 | -2.179745 | environment | 0.262194 | 5.870036 |
|             | govge      | 0.066399  | 2.368871 |
|             | govrq      | 0.234178  | 5.947087 |
| Growth      | govrl      | -7.384757 | -4.858364 | govps | 4.791767 | 2.163105 |
|             | health     | -2.037132 | -7.041215 | govrln | -15.6316 | -5.513523 |
|             | house      | 1.525952  | 2.148307 | health | -1.69251 | -3.201055 |
|             | order      | 2.210454  | 2.951149 | social | -2.165902 | -9.196355 |
|             | social     | -1.60396  | -11.86612 |
|             | economic   | -0.741845 | -3.619018 |
|             | defence    | 1.416271  | 2.752606 |

Data sources: EUROSTAT, AMECO, WB, TI

The regressions’ results sustain the following conclusions:

• total expenditure – general government / GDP has a negative impact on economic growth, measured both in real GDP growth rate and log(GDP per head of population); considering the effects of the average of the governance indicators and corruption perception index doesn’t change the negative effect of total expenditure – general government / GDP; also the productive and nonproductive expenditure / GDP have negative effects on economic growth. The coefficients demonstrate a stronger impact in the case of former communist countries.

• regarding the effects of the governance indicators – the significant variables for the log(GDP per head of population) are political stability, with negative impact, government effectiveness, regulatory quality, both with positive impact, for UE27 panel data, and voice and accountability, with negative impact, government effectiveness and regulatory quality, both with positive effect, for 10 former communist countries. Regarding the effects of these governance indicators, the significant variables are for the real GDP growth rate are Political Stability, with positive impact, Rule of Law, with
negative effect, and Control of Corruption, with positive impact, for UE27 panel data, and Political Stability, with positive impact, Rule of Law, with negative effect, and Control of Corruption, with positive impact, for 10 former communist countries.

- regarding the composition of the public expenditure, there is evidence of the principle of productive and nonproductive expenditures – the significant variables for the log(GDP per head of population) are, with positive effects, health public expenditures / GDP, recreation, culture and religion / GDP, environment protection / GDP, and, with negative effects, social protection / GDP, general public services / GDP, economic affairs / GDP, for both panels.

- regarding the composition of the public expenditure, there is strange evidence of the principle of productive and nonproductive expenditures – the significant variables for the real GDP growth rate are, with positive effects, housing and community amenities / GDP, public order and safety / GDP, defence / GDP, and, with negative effect, health public expenditures / GDP, recreation, culture and religion / GDP, social protection / GDP, environment protection / GDP, economic affairs / GDP, for EU27, and with negative impact there are health public expenditures / GDP, recreation, culture and religion / GDP, social protection / GDP for the 10 former communist countries panel.

In the next tables there are the results of the cluster analysis.

**Table 2: Cluster analysis – panel 1990-2012, UE 27**

<table>
<thead>
<tr>
<th>Clustering – loggdppc, exp, rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT, BE, DK, FI, FR, DE, HU, IT, NL, SE</td>
</tr>
</tbody>
</table>

Using cluster analysis for UE27, 1990-2012, for variables log(GDP per head of population), total expenditure – general government / GDP, total current revenue – general government / GDP, I obtain the following cluster:

- cluster 1, with greater value of economic growth, log(GDP per head of population), and greater size of the public sector, total expenditure – general government / GDP and total current revenue – general government / GDP, characterized by centre values 1.34 for loggdpc, 52 for expenditures, 49 for revenues: AT, BE, DK, FI, FR, DE, HU (the single former communist country), IT, NL, SE

- cluster 2, with smaller value of economic growth, log(GDP per head
of population), and a little size of the public sector, total expenditure – general government / GDP and total current revenue – general government / GDP, characterized by centre values 0.93 for loggdppc, 42 for expenditures, 38 for revenues: BG, CY, CZ, EE, EL, IE, LV, LT, LU, MT, PL, PT, RO, SK, SI, ES, UK

Table 3: Cluster analysis – panel data, UE 27

| Clustering – govva, govps, govg, govrq, govrl, govc | AT, BE, DK, FI, FR, DE, IE, LU, NL, PT, ES, SE, UK | BG, CY, CZ, EE, EL, HU, LV, LT, MT, PL, RO, SK, SI |
| Clustering – edu, health, house, order, recreation, social, services, environment, govrq, govrl, govc, PCI | AT, BE, DE, DK, EL, FI, FR, HU, IT, LU, NL, PL, SE, SI | BG, CY, CZ, EE, ES, IE, LT, LV, MT, PT, RO, SK |

Using cluster analysis for UE27 for governance indicators, voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, control of corruption, I obtain the following cluster:

- cluster 1, with greater value of governance indicators, characterized by centre values 1.41 for govva, 1.01 for govps, 1.73 for govg, 1.48 for govrq, 1.6 for govrl, 1.79 for govc: AT, BE, DK, FI, FR, DE, IE, LU, NL, PT, ES, SE, UK, only non-former communist countries.

- cluster 2, with smaller value of governance indicators, characterized by centre values 0.92 for govva, 0.71 for govps, 0.69 for govg, 0.91 for govrq, 0.69 for govrl, 0.49 for govc: BG, CY, CZ, EE, EL, HU, IT, LV, LT, MT, PL, RO, SK, SI.

Using cluster analysis for UE27 for the structure of public expenditures, education public expenditures / GDP, health public expenditures / GDP, housing and community amenities / GDP, public order and safety / GDP, recreation, culture and religion / GDP, social protection / GDP, general public services / GDP, environment protection / GDP, economic affairs / GDP, defence / GDP, I obtain the following cluster:

- cluster 1, with greater value of edu, health, recreation, social, services, and smaller values for house, order, environment, economic, defence: AT, BE, DK, FI, FR, DE, EL, HU, IT, LU, NL, PL, SI, SE, so Hungary and Slovenia have
the same characteristics as the developed countries.

- cluster 2, with smaller value of edu, health, recreation, social, services, and greater values for house, order, environment, economic, defence: BG, CY, CZ, EE, IE, LV, LT, MT, PT, RO, SK, ES, UK.

Using cluster analysis for UE27 for governance indicator-control of corruption and corruption perception index, I obtain the following cluster:

- cluster 1, with greater value of governance indicator of control of corruption and also great values of corruption perception index, characterized by centre values 1.79 for govcc and 8.03 for CPI: AT, BE, DK, FI, FR, DE, IE, LU, NL, PT, ES, SE, UK.

- cluster 2, with smaller value of governance indicator of control of corruption and also smaller values of corruption perception index, characterized by centre values 0.49, for govcc and 4.79 for CPI: BG, CY, CZ, EE, EL, IE, LV, LT, LU, MT, PL, PT, RO, SK, SI, ES, UK.

In the next tables there are the results of the quantile analysis.

**Table 4:** Quantile analysis – panel 1990-2012, UE 27

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<th>percentile</th>
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<th>q4</th>
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<td>DE; NL; AT; SE; DK; LU</td>
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<td></td>
<td>1.160,588</td>
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<td></td>
<td>140,273</td>
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<td>5,034,657</td>
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<td>rev</td>
<td>3,722,748</td>
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Table 5: Quantile analysis – panel 1996-2009, UE 27

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Using quantile analysis for UE27, 1990-2012, log(gdppc) and exp, the correlation between economic growth and the size of public sector is positive – most of the former communist countries are characterized by “small” public
sectors and less developed economies. The majority of the developed countries have “big” public sectors.

The conclusions of the quantile analysis for UE27 are:

- the former communist countries are in the upper quartile of the real GDP growth rate, which supports the convergence principle.
- the former communist countries are in the bottom quartile of the GDP per head of population.
- most of the former communist countries are in the bottom quartile of the public expenditure – exceptions are CZ, PL, SI, HU.
- most of the former communist countries are in the bottom quartile of the governance indicators – exceptions are CZ, SI in the case of govps, EE in the case of govrq.
- regarding the structure of the public expenditures, there are a lot of differences between the former communist countries – the productive expenditures are high in the case of LT, LV, PL, SI, EE for edu, SK, SI, CZ for health, SK, HU, CZ, LV, PL, RO for house, SI, RO, LT, HU, CZ, BG, LV, EE, SK for order, SK, HU for services, HU, EE, SI, SK, BG, CZ for environment, EE, LT, CZ, SK, RO, BG for defence.
- regarding corruption perception index, all the former communist countries are in the bottom quartiles.

Conclusions

The size of the public sector is a reflection of current and past political choices. There are empirical evidences that support the idea that when public sector becomes “too big”, the economic growth is negatively affected, and there are also present higher tax burden and inefficiency of the public administration.

The particularities of the former communist countries consist in inefficient administration of tax and expenditure, volatility of the tax base, the magnitude of fiscal adjustment needed to stabilize macroeconomic environment, required changes in the composition of public expenditure and revenues, weak institutional legacy of budget expenditure management system.

The effects of public sector’s size on the economic growth are dependent of the quality of the public sector. In this article I capture the size of the public sector through public expenditures, and the quality of it through governance indicators and the structure of public expenditures.
The empirical results sustain the following conclusions: public expenditure has a negative impact on economic growth; a part of the governance indicators are relevant for economic development; the significant variables for the economic development that have positive effects are health public expenditures, recreation, culture and religion, environment protection.

A further reaserch have to be done in order to estimate the changes in public sector’s size and quality for ex-communist countries that are also EU members and to evaluate the impact of these changes on economic growth.

Acknowledgment

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Economic Growth, 3: 241–266.


Education Funding Methods in European States

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At European level, the allocation of a small amount of financial resources to education as a percentage of GDP associated with major economic difficulties affected the whole structure of the education expenditure: by type of expenditure, level of education and residence type.

State intervention in educational activity requires to be aware of the amount of public expenditure conducted by public bodies, both central and local authorities, to finance this activity. Funding education must provide incentives to ensure efficiency as it is important not only for being the base of a proper organization of the educational activity, but also because it can improve its content.

Keywords: education, higher education, funding, public-privat partnership, government expenditure on education

JEL Classification: I21, I22, I23, I28, H41, H52

Introduction

Education has always held and still holds an important role in the process of formation and training of individuals throughout their existence. We all know that education is important for our economic future. A modern society needs educated people.

Moreover, the available data and studies reveal that education and training are the main factors contributing to long-term economic development
as well as to the progress of societies. Also, investment in education and training creates the most important gains and an increase in labor education is a key factor of economic growth.

Among most of the world’s states investment in education has not reached significant changes in the last decade until 2008 – before the economic collapse started.

During the crisis the governments of some states have taken urgent actions so as to prevent changing the financing measures in place, in order to ensure the continuous operation of the system and to protect the reforms implemented over the last decade [1].

Although total public expenditure on education remained stable at the European Union level between 2001 and 2008, showing a positive trend, total annual investment per student experienced a slight increase.

**Education funding systems in European states**

As the available data show [2], between 2001 and 2006, the total amount allocated to education, as a percentage of EU-27 GDP, remained constant, being around 5.1. Though, the medium rate points a few differences between states as these rates have shown significant changes during this period.

Between 2001 and 2006, the percentage of GDP allocated to education has increased significantly, by more than 20%, in countries like Hungary, Cyprus and Iceland. An increase above 10%, during the same period, was noted in states like the Netherlands, Czech Republic and United Kingdom, as shown in Fig.1.

According to statistics, “in 2006, the share of public expenditure on education registered a percentage higher than 5% of GDP in most European countries (more than half)” [2]. An increase in this proportion was observed in the Nordic countries and in Cyprus, where the rate has exceeded even 6%. In other European countries, public expenditure on education, as a percentage of GDP, was below 5%.
In these states, responsible for funding education is “the public sector, by assuming direct responsibility for current and capital expenditure of schools (direct public financing of educational institutions) or by providing support for pupils/students and their families (state grants and loans), as well as by subsidizing training activities in the private sector or in non-profit organizations (transfers to households and firms)” [2]. Direct public funding of educational institutions and transfers to both households and firms are also included in the total public expenditure on education.

In the period 2001-2006, the EU-27 public expenditure on education accounted for 11 percent of total public expenditure. But about three-quarters of European countries allocate more than 10% of the public education budget in 2006. However, some countries, such as Denmark, Cyprus, Lithuania, Iceland, Estonia, Ireland, and Norway, register or even exceed the threshold of 14%. In countries like Italy, Germany and Luxembourg, this percentage does not reach 10%, as shown in Fig.2. We must consider the fact that total public expenditure on education indicator does not take into account the number of pupils/students and does not provide information on the unit cost per pupil/student.

In most European countries, where there are “available data, the share of public expenditure in total public expenditure on education has

Figure 1: Total public expenditure on education as percentage of GDP, 2006, Source: processed by the author using data from Eurydice, Eurostat, EACEA, European Commission, Key data on Education in Europe 2009.
been a constant since 2001, but in countries like Bulgaria, Czech Republic, Ireland, Slovakia and Iceland, this experienced a significant increase. But there are countries such as France, Luxembourg, Portugal and the Baltic States, where expenditure on education as a percentage of total public expenditure decreased” [2].

Figure 2: Public expenditure on education as percentage of total public expenditure, 2006, Source: processed by the author using data from Eurydice, Eurostat, EACEA, European Commission, Key data on Education in Europe 2009.

If we consider all levels of education, total public expenditure on education include “public sector direct funding for educational institutions and the transfers to households and firms” [2]. The value expressed as a percentage of public spending represents the share of the total budget, i.e. the budget allocated to all central, regional and local levels.

On educational levels, public expenditure on education differes form state to state as shown in Fig.3. A number of factors (economic, political, and demographic) must be taken into account. We also have to consider the necessary time allocated for reaching the next level of education as well as the participation rates for post-compulsory levels of education.
Regarding higher education, the main source of funding in the Member States of the European Union is the public budget. Thus, regardless of the funding mechanisms used by the government of each of the Member States, the percentage of GDP allocated to public funding of higher education sector recorded, in 2008, an average of 1.2 [3].

According to the data available in Table 1., in the Nordic countries, the share of GDP allocated to financing the system of higher education reaches up to 2.1 to 2.2 (Norway, and Denmark), while in European countries such as Bulgaria, Czech Republic, Italy, Latvia, Lithuania, United Kingdom, Portugal, Slovakia and Hungary, the percentage of GDP is below the European average.

Table 1: Total public expenditure on higher education as a percentage of GDP, 2008

<table>
<thead>
<tr>
<th>State</th>
<th>BE</th>
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<tbody>
<tr>
<td></td>
<td>1.4</td>
<td>0.9</td>
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<td>2.2</td>
<td>1.2</td>
<td>1.1</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
<td>1.2</td>
<td>0.8</td>
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<td>1.0</td>
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“:” Data not available, Source: Eurydice, Eurostat, EACEA, European Commission - Key Data on education in Europe 2012.

Differences between countries continue beyond the proportion of GDP allocated to public funding of higher education. Thus, Member State governments allocate a sum of money corresponding to the percentage of GDP...
allocated to higher education level using various funding mechanisms. In many countries, the main funding mechanisms are mostly the same, but they are applied differently. In Table 2., we have centralized the types of funding mechanisms used by EU governments to allocate public fund to higher education institutions.

**Table 2:** Financing mechanisms of higher education in the European Union

<table>
<thead>
<tr>
<th>Funding formula</th>
<th>BE</th>
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</thead>
<tbody>
<tr>
<td>Negociated budget with the funding authority based on an estimated budget submitted by the higher education institution</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Budget allocated by the funding authority on the basis of historical costs</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Budget allocated under a performance contract signed by the funding authority and the university, regarding the achievement of certain strategic objectives</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>Budget allocated under a contract signed with the funding authority, based on a predetermined number of students, by fields of study.</td>
<td>X</td>
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<tr>
<td>Provision of research funds through competition</td>
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<td>X</td>
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### Table: Funding Formulas

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<tbody>
<tr>
<td>Negociated budget with the funding authority based on an estimated budget submitted by the higher education institution</td>
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<td>Budget allocated by the funding authority on the basis of historical costs</td>
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<tr>
<td>Budget allocated under a performance contract signed by the funding authority and the university, regarding the achievement of certain strategic objectives</td>
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<td>Budget allocated under a contract signed with the funding authority, based on a predetermined number of students, by fields of study.</td>
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<tr>
<td>Provision of research funds through competition</td>
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</table>

- X - Applied financing mechanism  
- R – established by the regional authority  


In Belgium, responsible for funding higher education are the three communities – German, French and Flemish. Since 2008, the Flemish community applies a new system of funding higher education [4]. Thus appeared the concept of sub-budgets allocated to universities. As a consequence, universities receive a fixed amount of money for funding the educational process, a variable amount of money according to the number of credit points obtained by the university only if the university achieves the
minimum number of credits established by the financing authority. If the universities do not accumulate at least the required number of credit points, the variable sum of money will not be granted. Universities also receive a variable amount of money for research within organized competitions. Private universities are not funded from the state budget. [5]

In Bulgaria, the amount of money allocated from the state budget to each university is based on the number of students enrolled in that university, by fields of study. There are also taken into account a few performance criteria such as the number of scientific publications and the evaluation of accreditation of study programs. While public universities are mostly financed from the state budget, private universities are not. [6]

In the Czech Republic, 70% of a university budget is financed from the state budget; other public financial resources from regional or local budgets are exceptional. [7]. The main funding mechanism is based on performance criteria. These include the number of students from the previous year and graduation rates. Starting with 2011, other performance criteria were added to adjust funding to the priority objectives of the national strategy. Private universities do not receive funding from the state budget unless they have a charity status, in which case the universities may receive state grants to develop their curricula.

In Denmark, the funding system of education by the central government is based on the taximeter principle. Under this system, the amount of money allocated to the university is correlated with the number of students that promote exams. Thus, the funding of the teaching activity is based on historical cost principle. These costs vary from one profile group to another. In addition to core funding, universities can supplement their income from research grants won through competition. There are no private institutions of higher education in Denmark. [8]

Responsible for funding universities in Germany is mainly the government of the land in whose jurisdiction is the university. Additional resources can come from the federal government’s budget if there is a national interest. Funding mechanisms vary from one province to another. Private universities do not receive state financing. [9]

The main source of funding for higher education institutions in Estonia is the state budget. Public funding amount depends on the number of students, by field of study and level of study (bachelor, master and PhD). The amount of funding is subject to a process of negotiation between the authorities
involved. Unlike other funding schemes, in Estonian higher education private universities receive funds from the state budget. Though, the number of places funded from the state budget in private universities is low. In this case, funding is granted for areas where the state can not form qualified personnel. [10]

Since 2008, the government of Ireland has implemented a new funding model for higher education institutions based on a funding formula applicable to all categories of public institutions of higher education, thus giving up the negotiations between the involved parties. [11]

According to the Greek constitution, higher education is a guaranteed right for every citizen and does not require a fee payment. The main funding source is the state budget. Resource allocation to universities is based on a performance contract through which universities assume the achievement of the strategic objectives set in the multi-annual program submitted by the university to the financing authority. [12]

In Spain, the regional governments are responsible for funding higher education institutions. Each regional community establishes its own funding mechanism. [13]

In France, the private universities can receive state subsidy only if they are recognized by the ministry. [14]

In Italy, the main source of funding for higher education institutions is the state budget. The historical costs, i.e. the amounts received in the previous year, are the basis of the calculation of budgetary allocation for each university. [15]

In Cyprus, financing higher education institutions is the responsibility of the government, the main source of financing being the state budget. Universities receive public funds based on negotiations between the university and the funding authorities. Students enrolled in private universities receive scholarships from the state budget. [16]

In Latvia, the funding mechanism is based on a predetermined number of students in each field of study. Private universities can receive state subsidies for the training of specialists. [17]

In Lithuania, the funding follows the student whether he chooses to attend a state university or a private university. The state budget funds a predefined study places by fields of study. [18]

In Hungary, the state budget subsidy finances both public and private universities on the basis of a funding formula. [19]

In the Netherlands, the funding mechanism for higher education is based on a
formula considering performance indicators. [20]

In Austria, public universities are funded mainly from the state budget. Between 85-90% of the funds of a university comes from the state budget. Since 2002, funding is granted on a multi-annual budget based on a funding formula (20%) and under contracts concluded between the university and the financing authority which stipulate the achievement of certain performance criteria. [21]

In Poland, universities receive financial resources from the state budget. The students enrolled in private universities may receive funds from the state budget. [22]

In the United Kingdom, public funds are distributed to the universities on the basis of a contract concluded between the university and the funding authority. The contract requires the efficient use of the received public funds. [23]

Besides public sector, funding source is the private funding. Private expenditures include tuition fees (and other payments) which are mainly made by households, enterprises and non-profit organizations.

Figure 4: Proportions of educational expenditure from public and private sources, 2006, Source: processed by the author using data from Eurydice, Eurostat, EACEA, European Commission, Key data on Education in Europe 2009

However, the share of private funds used to cover the costs of education differs significantly from country to country. Moreover, private funding represents more than 15% of the expenditure for education in Cyprus, the Netherlands, Bulgaria and the UK. It is also possible that a similar situation is registered in other countries, as statistics show no data available for this funding source.

At European level – as shown in Fig.4., funding for the education sector is made mostly form public funds. If we consider all levels of education,
at least 75% of education expenditure are covered from public funds. Almost all states use for education funding financial resources provided by the central or the local government [2]. But there are countries, as shown in Fig.5., where financial resources management (above 70%) offers a high degree of centralization as in Ireland, Greece, France, Italy, Cyprus, Malta, Netherlands, Portugal, and Slovenia. In Liechtenstein, most of the resources used are provided by the central authority. Moreover, in “only 4 countries, the main funders of education are at the regional level, namely: Belgium, Germany, Spain and, to a lesser extent, the Czech Republic, countries where more than 70% of the funds allocated to education (45.5% in the Czech Republic) are collected and spent at regional level. The regional institutions in three of these countries (Communities of Belgium, the Autonomus Communities of Spain and the Land in Germany) represent the highest level of authority in education” [2].
**Local level**

**Figure 5:** Sources of public funding of education by administrative level, before and after transfers, 2006. Source: processed by the author using data from Eurydice, Eurostat, EACEA, European Commission, Key data on Education in Europe 2009

“Education funding should provide incentives to ensure efficiency that is important not only because underlies a good organization of educational activity, but also because it can improve its content” [24]. Education expenses were influenced, after 2000, by the educational policies and thus appeared new tendencies in financing education.

However, an important aspect being in the attention of all participants in the financing process of education is related to “the increase of financial resources as a result of GDP growth” [25]. This increase must be supported by public authorities in partnership with other stakeholders such as traders, social partners and individuals.

**Public-privat partnership – education funding method**

Development of public-private partnership is a trend that is getting amplitude and currently occurs only in secondary and tertiary education. It is important to involve all those useful individuals in order to attract partners. In particular, the government and social partners should explore the possibility of establishing different types of partnerships (public-private) to mobilize additional human and financial resources.

“Developing public-private partnership requires cooperation between institutions specialized in research and development, universities and
enterprises, especially in specific areas of advanced technologies” [26]. Working with partners is known as a critical factor for motivation, openness and quality of the educational system in the view of ongoing education and training throughout life. Partnerships, by requiring private financial contributions, can encourage more responsible behavior of students, families and educational staff and increase the efficiency of using overall spending.

Companies could, for example, be asked to finance or co-finance schools, equipment and scholarships, introducing new educational cycles in accordance with the requirements of the labor market, school departments or university departments, research units, training courses to guide pupils and students to those areas suffering from qualified personnel crisis. Moreover, education providers will be directly involved in dialogue with employers and in this way they can propose creative curricula to be constantly adapted to the needs of employers. There can also be “identified methods through which local authorities can get involved to support a process of continuous adaptation to labor market demands”. [27]

In the author’s opinion [28], “fiscal policy measures should be taken in order to determine the economic agents to provide financial resources to fund educational performance”.

However, the government should seek support from various participants and influence action for massive and sustained investment from companies and individuals, in order to encourage public-private partnerships in the education sector. For maximum efficiency, coordinated action between ministries is required.

Conclusions

Funding education becomes a complex process as the global financial resources face decrease. The methods of funding education have not undergone great changes over time, but the world’s countries, including European states seek solutions to diversify the funding sources of education. One education funding method tends to gain amplitude by developing public-private partnerships. But this requires cooperation between institutions specialized in research and development, universities and undertakings. Moreover, state authorities should support massive investment in education as education must be a priority of each nation and the effects of this investment can be noted on long term.
References

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