Business Ethics and CSR

CORPORATES AND NGOS COLLABORATING FOR VOLUNTEERING

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Abstract. *Professionals and academics consider that corporate volunteerism is continuously increasing in Romania. The academic research concentrates more on the strategic relevance for companies of employee volunteering and the way it influences their relationships. It just incidentally touches functional aspects of how the relationships between companies and NGOs actually occur during such projects. Therefore, these later aspects are at the center of this study. The present paper investigates the practices in the field of corporate volunteering in Romania. The focus is the way in which such programs are initiated – from the perspective of the nonprofit sector, as well as how are they organized – stressing on the cooperation between corporations and nonprofits. Findings reveal that in Romania corporate volunteering is stimulated by organizations, rather than by companies. NGOs also are the main coordinators and designers of the employee volunteering programs. Most problems identified by the nonprofit sector representatives, which occur during the corporate volunteering programs, are related with the involvement of companies and the attitude of corporate employees.*

Keywords*: corporate volunteering; benefits of corporate volunteering; implementation of corporate volunteering projects.*

Introduction

All types of organizations encourage today corporate volunteering, since responsibility seems to be an increasingly more important aspect related to the development of effective strategies; corporate volunteering is considered an important tool for proving responsible commitment (Burnes & Gonyea, 2005). Research shows that while increasingly more companies support employee volunteering in various forms, larger companies tend to have a more formal and strategic approach of volunteering (Basil, Runte, Basil & Usher, 2011).

Many companies in Romania, both multinational and autochthonous, develop diverse corporate volunteering programs. For some of them these programs are extremely important in the context of their CSR strategy, being highlighted in their CSR reports and communication as a significant direction of action. Therefore, corporate volunteering is seen as a strategic tool for companies, and as having a high potential of positive impact on the companies. Such attitude is in line with many studies referring to the benefits of corporate volunteering (Bartsch, 2012; Caligiuri, Mencin & Jiang, 2013; JAW, 2009; Muthuri, Matten & Moon, 2009; Zappala, 2003). Some benefits are internal – both functional and strategic. Others are connected with the impact on the external environment framework. Amongst them, one could take into consideration the creation of social networks (Muthuri et al., 2009).

A brief literature review reveals that the academic research concentrates more on the strategic relevance for companies of employee volunteering and the way it influences their relationships. It just incidentally touches functional aspects of how the relationships between companies and NGOs actually occur during such projects. Therefore, these later aspects are at the center of this study. The present paper aims to investigate the practices in the field of corporate volunteering in Romania. The main focus is the way in which such programs are initiated – from the perspective of the nonprofit sector, as well as how are they organized – stressing on the cooperation between corporations and nonprofits.

The impact of corporate volunteering on company`s relationships

Studies document a positive relationship between corporate volunteering and constructive corporate culture, including engagement and fidelity to the company (Basil et al., 2011; Caligiuri et al., 2013; Gatignon-Turnau & Mignonac, 2015; Pajo & Lee 2011), as well as in mobilizing other employees (Muthuri et al., 2009). The Deloitte Volunteer IMPACT Survey (Deloitte, 2011, p.2) shows than those who volunteer for the company frequently are more engaged, satisfied and recommend the company compared with those who rarely or never volunteer. Therefore corporate volunteering is a way to strengthen the relationships between company and its employees. It could be a strategic tool in terms of developing organizational culture. Nevertheless, if the employees consider that a company uses its corporate volunteering program as a PR toll, the affective commitment of the staff is negatively influenced (Gatignon-Turnau & Mignonac, 2015). Companies also should have in mind that employees have their own reasons to volunteer (Zappala, 2003). Altruistic motives are a key factor (Pajo & Lee, 2011). If there is no match, or volunteers feel compelled to get involved, the outcome might be negative (Zappala, 2003).

Companies consider that their volunteering programs have strong social impact by helping nonprofit organizations accomplish their social goals and help them function more effectively (Caligiuri et al., 2013; Deloitte, 2010). Companies generally consider that the outside impact on society of their volunteers is more relevant than the impact on their strategies, brand and employees. Therefore, companies might consider enhancing their own benefits by using corporate volunteering to develop their relationships with the nonprofit sector, as with their civil stakeholders. Developing long-term relationship might be critical for NGOs and the sustainable impact of corporate volunteering since the effects after 6 month are considered not to be strong enough to sustain anymore the resources of NGOs (Caligiuri et al., 2013).

Larger companies tend to influence more the nonprofits with which they cooperate in the context of corporate volunteering (Basil et al., 2011). The social impact of corporate volunteering, as well as the company`s relationships with nonprofits would increase if they would jointly set achievable social objectives as well as measurement frameworks. In this context, corporate volunteers, corporations, as well as nonprofit organizations should be accountable and should work together for measuring the impact and improving the outcomes (Deloitte, 2010).

Developing fruitful long-term relationships with nonprofits is beneficial for both parties. In the context of corporate volunteering, companies are interested in developing long-term relationships, considering that this is a crucial element in the success of the corporate volunteering projects (EC, 2014). The larger the company, the more likely to develop stable relationships with nonprofits in the context of employee volunteering programs (EC, 2014). Nevertheless, many situations in which companies cooperate with NGOs chosen by their employees exist. This would have positive impact both on the relationships with their staff, and on the effectiveness of those projects.

Silva and Cooray (2014) propose a holistic business approach to maximize the outcomes of corporate volunteering both when having in mind the employees and the relationships with nonprofits (as well as the practical social outcomes). A series of coaching workshops is proposed prior to, during and after the volunteering activity, to address both the company`s values and the volunteers` motives. These coaching sessions have to be developed in connection and in cooperation with partner NGOs.

A study in 2011 asking European practitioners on the outcomes of employee volunteering shows that it has a strong positive impact on the local community (100% of the respondents) and develops cooperation and relationships with the community leaders (75%) (EC, 2014). All the other outcomes were related with the workforce and the image of the company.

Generally speaking, employee volunteering contributes to the development of corporate networking with various stakeholders. The strength of the network depends on several factors, amongst which trust, the frequency, magnitude and consistency of the joint programs (Muthuri et al., 2009). This process could be mediated by third parties, as could be the case in the UK with the Employees in the Community Network or the Business in the Community Care Programme. The capacity to cooperate of the actors involved is related with their capacity to bring their competitive advantage to make the network more functional (Muthuri et al., 2009). All those involved mobilize various resources and use formal and informal connections; a mutual dependency could be identified. Maximizing the outcomes of a volunteering projects, therefore creating the conditions for long-term relationship development, depends on creating meaningful experiences, social support within NGOs and skill development. It also has to be considered that increased value for one stakeholder/actor involved might generate a negative or neutral impact on another (Caligiuri et al., 2013).

Various barriers to employee volunteering could negatively influence the relationships between corporations and NGOs. Amongst them, we mention that some nonprofits consider that employee volunteers are not "real" volunteers or that actors involved do not perceive and understand the others` realities (EC, 2014).

Corporate volunteering in Romania

Corporate volunteering is related with the desire of employees to volunteer and contribute to the community, as well as with the companies` interest in CSR. Romanians, compared to other European countries, do not have a solid desire to volunteer (CMPS, 2013; Eurobarometer, 2011). The rate is much higher amongst young adults living in urban areas of at least 200.000 inhabitants, who volunteer in a percentage of 29% (Mai Mult Verde, 2010). In Romania, those who volunteer the most are students – 29%, employees with university degree (19.2%), pupils (19%) and qualified workers (14.9%) (CMPS, 2013, p.5). Top managers are very little involved in volunteering – only 5% of them (CMPS, 2013, p.5). This might be justified by lack of time and be compensated by other ways of community involvement, but could set a negative example for employees in the context of corporate volunteering. Employed people – between 24 and 60 years old volunteer in the smallest degree (CMPS, 2013, p.6). This might be related more with the lack of time and opportunities, than with the lack of motivation. A study on the Romanian middle class shows that lower classes volunteer more (SMARK, 2013). This last finding might be in contradiction with the one referring to the tendency amongst the better educated to volunteer – further research would be needed to better understand the profile of the Romanian volunteer.

The motivation to volunteer, in general, is also relevant for companies that support employee volunteering programs. The main reason declared by Romanian volunteers is to help others (40%) followed at a certain distance by professional development (15%) and socializing (14%). Only 9% volunteer because they believe in a certain cause (CMPS, 2013, p.11). These drives would be relevant for companies to consider while designing their employee volunteering programs and stimulating their staff to heartedly participate.

Almost 60% would volunteer for a company that donates for charities (CMPS, 2013, p.13). A study at the EU level shows that more than 86% of the employees are in general interested in being part of corporate volunteering (EC, 2014).

It is difficult to grasp how big the employee volunteering in Romania actually is because of lack of relevant research. The European Commission ordered a study on the issue in 2013 (EC, 2014). The findings prove that employee volunteering is growing in Europe, and it is mainly associated with CSR efforts (EC, 2014). Many types of employee volunteering are developed by companies, but the most popular ones are *volunteering day* among large companies and *fundraising initiatives* among SMEs (these are also popular for large firms) (EC, 2014). These might be referred because they are more convenient in terms of time dedicated, logistics and other organizational issue. No specific data is provided for Romania, but these general outlines might apply.

A previous study developed in the EU on volunteering includes in the country report for Romania the general statement that *few Romanians (and Romanian companies) are involved in corporate volunteering* (GHK, 2011, p.9). The same report states that good practices are to be found amongst corporations in Romania. Nevertheless, it also states that very few companies allow their employees to volunteer during working hours and that most companies develop corporate volunteering programs once per year (GHK, 2011).

There is a concern for stimulating volunteering in Romania, associated with projects of the VOLUM Federation and several associations such as Pro Vobis, the National Resource Center for Volunteerism. This last organization has designed a complex program in this direction: Win-Win Corporate Volunteerism Program. In 2011 it developed a guide for corporate volunteering: *Volunteering supported by employers and corporate social responsibility* (VOLUM, 2011). Corporate volunteering is awarded in Romania – and hopefully stimulated – by the National Gala of Volunteers (www.galavoluntarilor.ro). The awards considered for corporate volunteering are ”The Year Volunteer in Corporate Field” and ”The Year Project of Volunteering in Corporate Field”.

Developing corporate volunteering projects in Romanian – the nonprofit sector perspective

Methodology

The main objective of the research is to understand how corporate volunteering projects are developed in Romania. Since only little information exists and companies seem to be not so transparent, we designed an exploratory research of the nonprofit sector to have a sense of the practices in the field, of the relationships between companies and nonprofit associations, as well as the interactions with the volunteers that develop in the context of corporate volunteering.

In this framework, a short questionnaire was designed, with two main sections. A limited number of questions was considered to ensure a larger amount of completely filled in surveys. This design puts certain limits to analyzing the results, but ensures a more solid exploratory research and the possibility to project relevant future directions of investigation.

The first section addressed the lack of such projects. In the case of those organizations that did not develop corporate volunteering projects during the last year the intent to cooperate with companies in the near future was investigated. They were also asked about their expectations of the companies` support and how they would see such cooperation. This section comprises only four questions.

The second section, of 12 questions, aims at catching the processes associated with employee volunteering: which is the initiator as such projects, which is the coordinator, how are the corporate volunteering activities designed, how are the companies supporting the projects, etc. This section included three open questions on the relationships between the organization and the company aiming to get some more insightful perspectives to further built the research.

The invitation to fill in the questionnaire was mainly emailed using the contacts database of Pro Vobis, one of the most dynamic and reputed associations promoting volunteering in Romania. Therefore, the respondents were supposed to have large experience in corporate volunteering projects. This presumption was also supported by the expectation that the respondents who would choose to complete the survey were particularly interested in the topic (because they had developed such projects). This supposition seems to be only partly confirmed, since 38% of the respondent organizations developed corporate volunteering projects in the previous year.

Findings and discussions

The representatives of 149 organizations filled in the questionnaire. Only a few of them gave responses to the open-ended questions. We suppose that either the respondents do not have time for surveys - therefore the simplification of the questionnaire was justified -, and/or some of them are not open to disclosing all their opinions on this topic. This last observation implies that in-depth investigation of the topic might not be an easy task, both when considering corporations and NGOs.

62% of the organizations were not involved in corporate volunteering projects in the previous year, but 90% of them are interested in cooperating with companies in this field. Except an organization arguing that its activities does not allow for such cooperation, all the others stated that the organization is not interest in this sort of partnerships. A few of them also mentioned the lack of dedicated budget and personnel. One of the representatives also stated:
”*We are against the concept of CSR and we consider that a company should aim its own scope which is by definition unique – the profit – and it should observe the legislation. The relationships with NGOs should be of sponsoring with money or goods, eventually services, specific with its activity. It should not force its employees to volunteer – this could anyone of them do because of his/her own believes, where and when s/he wishes; the employer should not interfere as it should not be involved in to whom and how the employee gives 2% of the tax on income, even if many employers are doing that and it is disloyal competition”.*

As stated before, most of those organizations that did not developed corporate volunteering projects in the past year would be interested in doing that. Most of them would primarily like the companies to ensure the necessary budget for corporate volunteering.

Table 1. The type of support expected from a company in order to involve its employees in volunteering

	Valid percent
Allocation of a budget to cover the costs of the staff involved in organizing / coordinating the activity	15.7%
Allocation of a budget to cover the costs of the activities in which its employees are involved	42.2%
Allocation of a representative of the company to coordinate its employees	20.5%
To permit the employees to volunteer during their working-hours	21.7%

57.1% of the organizations consider that a third body to mediate the communication between the company and the organization is useful, and 46.4% of the respondents consider that a third body to coordinate the volunteering activity of the employees of the company is useful. These relatively high figures would suggest that the respective NGOs feel they do not communicate well enough both with companies and with their employees. It also suggests that nonprofit organizations consider that they do not have the necessary resources involved by corporate volunteering projects.

90 organizations filled in the section of the questionnaire referring to the experience related with corporate volunteering projects, not only the 57 respondents who declared they cooperated with companies in the previous year for employee volunteering.

Table 2. The initiative of the corporate volunteering

	Valid percent
An employee of the company has initiated the cooperation	25.6%
An employee / a volunteer of the organization has initiated the cooperation	31.1%
The management of the company has initiated the cooperation	18.9%
The management of the organization has initiated the cooperation	52.2%

Table 2 shows that most of the corporate volunteering programs are initiated by the nonprofit sector side. We also observe that individual initiatives of persons who want to contribute to solving a problem, either cooperating with a NGO or a company, are extremely important. We also mention that the Pearson`s r statistic suggests a negative significant relationship between the situations when an employee of a company initiates the cooperation and when the management of the organization has initiated the cooperation ($r = -.511$, 0.01 level, 2-tailed) and a weaker relationship when the management of the company has initiated the project ($r = -.218$, 0.05 level, 2-tailed). These data suggest that the employees proposing such initiatives activate somehow independently from the management of the organization or of the company. Also data shows a relationship, negative and weak, between the situation when the management of the company has initiated the cooperation and when an employee / volunteer of the organization has proposed the project (r = -.324, 0.01 level, 2-tailed). Taking into consideration all these data, as well as the small number of respondents in the sample, the correlations should be cautiously considered.

Nevertheless, the distribution of the data suggests that in many cases only the management of the organization is the initiator of such projects. In only one third of the situations, the organizations experienced more types of corporate volunteering programs from the perspective of the initiator. Corroborated with the fact that only 63% of the respondents developed such programs in the previous year, the others being involved in such programs more rarely, we believe that in general, in Romania, an organization is not constantly and widely involved in corporate volunteering programs. This might be related with internal factors, such as the dimensions and the financial power of NGOs, but also with the interest of corporations to widen such initiatives.

Further research on internal processes that take place in companies, but also in organizations when developing corporate volunteering programs would be helpful in stimulating such practices.

A further question of the study was who the main coordinator of the corporate volunteering project is. As expected, there is a relatively close cooperation; in 37.5% of cases a representative of the organization and a representative of the company are designated to be in charge.

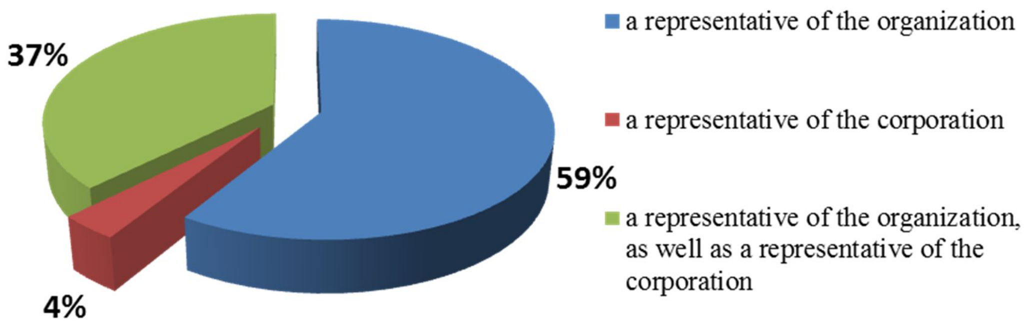

Figure 1. The main coordinator of the corporate volunteering project

In most cases organizations manage the corporate volunteers. It would be interested to investigate if in the case of joint coordination, the corporation representative has actual involvement in the designing of the activities and the processes developed in the organization, or is just in charge with some logistics related with the company.

The study also investigates how are the activities designed, as shown in the following table.

Table 3. Design of the activities associated with corporate volunteering projects

	Valid percent
The volunteering activities of the corporate employees were chosen by consulting those employees.	21.4%
The volunteering activities of the corporate employees were chosen by consulting the management of those companies.	19.6%
The volunteering activities of the corporate employees were chosen based on the CSR objectives / priorities of the company.	7.1%
The volunteering activities of the corporate employees were chosen at the proposal of the organization.	75%

In most cases, those directly involved in those activities – the organization and the volunteers – are the ones that contribute to the design of the activities associated with a corporate volunteering project. As expected there is a positive relationship, but rather weak, when the management of the company has initiated the cooperation, it is consulted in order to design the activities associated (r = .321, 0.05 level, 2-tailed). Pearson`s correlation also shows a stronger, but negative relationships between the situation when consulting the employees involved and when the organization proposes the activities (r = -.402, 0.01 level, 2-tailed), as well as when the management of companies is consulted and when the organization recommends the content of the volunteers' jobs (r = -.337, 0.05 level, 2-tailed). Data suggest overall that organizations tend to design themselves the activities of the corporate volunteers.

Less than 5% of the organizations that were involved in employee volunteering projects do not wish to cooperate in the future with companies in such projects. 42% of the organizations cooperating with companies in employee volunteering projects considers that a third body would be useful in managing the communication with the company. This relatively high percentage suggests that for those organizations some situations might have occurred: they experienced communication problems, they experiences lack of resources, intense communication occurs and it is time consuming. Almost the same percentage consider that a third body should manage the volunteering activities of corporate employees. This also would suggest that organizations might like companies to take more responsibilities in managing the corporate volunteering projects and to lesser their own burden.

The problems related with corporate volunteering mentioned by the respondents regard both the company and its employees and the organization. Amongst the last type, less favored in terms of numbers, we mention: lack of necessary resources, some uncertainties related to how to treat corporate volunteers compared to the regular volunteers of the organization, lack of proper strategies to successfully approach the companies in the area and cooperate with them.

The problems related with the organization are more numerous: some companies are too intrusive and they want to do things their way no matter the context, some of their representatives are too rigid, some difficulties in communicating with the management, and such. Some organizations consider that a lack of real interest exist among companies: "*Our proposal was accepted only because it looks good (for the company to get involved). After we have been "placed" to someone with a lower position within the firm, we were ignored. The interest of companies in volunteering is rather small"*.

Many of the problems also related with the employees that volunteer. The most frequent problem mentioned is their lack of interest in the cause. In addition, several representatives mentioned the lack of the necessary time to develop all the activities planned (considering that many volunteer in their free-time). Some other problems mentioned were related to the logistics associated with training the corporate volunteers and to develop the activities.

Conclusions

Limited information exist on corporate volunteering in Romania, therefore many aspects of this topic are basically unknown, including the dimension of the phenomenon, the profile of the corporations or their employees which are involved, the outcomes and such. The present investigation is an exploratory one which highlights only some operative aspects related with corporate volunteering projects.

The Romanian nongovernmental organizations generally want to cooperate with companies in corporate volunteering projects, but not so many actually are involved in such partnerships. This is consistent with a previous European study (GHK, 2011). Organizations would like companies to support more such projects, including by assuming managerial aspects, and especially allocating budgets for them.

Lack of resources and problems that might occur make many organizations wish for wider cooperation, including third bodies to assume part of the communication and management aspects related with the corporate volunteering. A significant part of the organizations with experience in corporate volunteering consider that some employees are not motivated to volunteer (a common concern in Europe – EC, 2014), while others do not have the proper conditions ensured by corporations to get involved. Organizations seem to want corporations to be more open and not so controlling.

The initiatives for corporate volunteering projects in Romania are in most cases related with the organizations and their employees/volunteers. NGOs are also the ones that mostly assume the coordination of the activities, as well as their design. Despite the problems which seem to exist and the efforts an organization has to do, most of them want to (further) cooperate with companies in corporate volunteering projects.

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SOCIAL INNOVATION - A GLOBAL SHAPER OF THE DIGITAL CIVIL SOCIETY

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Abstract. *The present research paper is focusing on the way social innovation is shaping the digital civil society. As new as it is, this concept has roots in local and international initiative, coming both from citizens and from organizations, with the purpose to use private resources for the public good. The primary aim is to make an exploratory intercession in the way we can define digital civil society, to identify the patterns in the social innovation as a global shaper for it and to map a start line for future analytical research, analyzing a series of online platforms and applications across the globe. In order to map the current state of the concept of digital civil society and to identify the most important aspects of it, the authors have chosen to develop their methodology research based on international insights provided by nonprofit organizations whose mission is to offer access to technology and to use technology for the community development and from international examples of digital innovation for the social good. This emergent research gave the authors a better understanding of the international context and mapping initiatives that have passed the incipient stage and are become a norm.*

Keywords: *social innovation; digital civil society; nonprofit/NGO; digital technology; social good.*

Introduction

The discussion about social innovation is not new, but in the last few years, fueled by the development of digital tools, social media, the rise of the crowdfunding[1] etc. it has gained broader recognition and importance, becoming an instrument of national growth and development of the civil society initiatives, in each corner of the world. The more companies, governments and nonprofits understand their role in tackling global issues, with a local impact and the importance of solving social problems, such as poverty, climate change, emissions etc., the more the relationship between these three sectors is strengthened and brings into discussion new solutions to old issues, as well as an ambitious social entrepreneurial class coupled with the emergence of high class technology and mobile technology.

We believe that the next big leap in what concerns the social innovation is related with the way this concept is helping the civil society as we know to become the *digital civil society*, in Bernholz (2015) terms, a new concept that redefines the civil society as we know it.

Rob Reich and Brian Coyne (2015) offer a broader definition of the civil society. In their opinion, civil society can include for-profit firms, nonprofit organizations, religious bodies, informal associations, and networks. Civil society organizations can be enduring or transient, large or small, formal or informal, local, national, or global. In general, civil society organizations and associations mediate between individual citizens and state institutions; they are private, voluntary action with a public face.

[1] Crowdfunding is the practice of funding a project or venture by raising monetary contributions from a large number of people, typically via the internet.

As Dennis Kingsley (2007) put it, in national societies, civil society conjures visions of a public sphere of voluntary association distinct from the state and, in some interpretations, from markets. The normative charge carried by this anodyne description is very powerful. Civil society institutions and practices are held to civilize governance. Far from being a mere description of a dynamic non-governmental realm of action and interaction, civil society also does service as an ethical ideal of pluralism and civility.

The new perspective, of the digital civil society, is based on the way both civil society *per se* and social innovation, especially the social economy, collaborate and manage to cross geographical, cultural and political boundaries to reach those who need help or to tackle the root of a social problem. In this equation, technology has a vital role: if chosen the right tech tool (be it software or hardware), organizations from any part of the world can improve their work, collaboration, reduce costs, find supporters for their cause and, maybe above all, can deliver better programs to their beneficiaries, most of them people living in poverty or coming from social-economically disadvantaged environments.

Research methodology

Our research methodology is based on the literature review and descriptive research based on empirical data from secondary sources. We have chosen this type of approach because our primary aim is to make an exploratory intercession in the way we can define this new concept, digital civil society, to identify the patterns in the social innovation as a global shaper for it and to map a start line for future analytical research.

An old-new concept: the innovation path

Innovation has become an increasingly common and strategic topic in politics, research and the public debate all over the world and, in the European Union agenda, the year 2009 has been declared "the year of creativity and innovation as a prerequisite for sustainable growth". As disrupting as it is considered today, innovation is not a new concept and many authors have tackled this subject in different times of our history. Adam Smith, Karl Marx or Alfred Marshall, together with many other scholars maintained the idea that innovation has an important role in what concerns the economic development and the rise of capitalism. Schumpeter, in his study about the phenomenon of economic development, noted that innovation is the production of a new good, the introduction of a new method of production, the opening of a new market, the conquest of a new source of raw material, and the creation of a new organization. Furthermore, he considers that new combinations must draw the necessary means of production from some old combination and that development consists primarily in employing existing resources in a different way, is doing new things with them, irrespective of whether those resources increase or not (Schumpeter, 1935).

In Peter Drucker's (1985) terms, innovation is the specific tool of entrepreneurship, the means by which the entrepreneurs exploit change as an opportunity for different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced. Entrepreneurs need to search purposefully for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation and they need to know and to apply the principles of successful innovation. The same point of view is argued by Hargadon (2002), who sees innovation as the implementation of new combinations of different resources within the organization.

Also, Drucker argues that innovation is both conceptual (at the ideas level), and perceptual (how people perceive it), pointing out that innovation is the result of a controlled and disciplined initiative. Systematic innovation consists in the purposeful and organized search for changes, and in the systematic analysis of the opportunities such changes might offer for economic or social innovations (Drucker, 1985). Innovative behavior is seen as a strategic activity, proving either the opportunity to gain competitive advantage or to loose (Jelinek & Schoonhoven, 1990; VonHippel, 1988).

More recently, Rosabeth Moss Kanter (2004) offered a detailed definition of innovation in organizations, underlying that innovation is more than doing an assigned task faster, or better. Performing such assigned tasks requires ordinary resources, routine power and authority, and little or no information sharing or gathering outside of the unit; consequently, the changes encounter only minor opposition from the institution. One can accomplish a task within the boundaries of established practice. On the other hand, something that is “innovative” involves highly problematic situations that cross organizational lines and threaten to disrupt existing arrangements. Such problematic situations require resources and skills beyond what we need to do our jobs. From Kanter’s perspective, innovations have implications for other functions and areas, and therefore require data, agreements, and resources of a wider scope than routine operations demand.

In addition, Matten, Crane and Moon (2007) propose that innovation and the application of new technological options by the private sector to be perceived as having fundamental implications for consumption choices and living standards of individuals across the globe. As seen above, innovation is in the same time a process of generation and exploitation of new things, and it requires a series of informational and coordination mechanism (Teece, 1992).

Not all authors see in innovation an honest process. For example, Cheverton, Vincent and Wilson (2000) claim that innovation should be linked to lying, cheating, and stealing in order to drive change. The authors define innovators in terms such as angry and frustrated mavericks looking for new ideas, people who will never become leaders because they are more interested in finding new challenges, and more obsessed by searching for the future than they are about following career paths. In other words, the mavericks are the ones who break the rules in order to invent new ones.

Unlike Cheverton et al. (2000), who see innovation coming only from a rebellion, Drucker (2002) identifies seven sources of innovation, based on changes within the enterprise or industry (the unexpected - success, failure and events-, the incongruity - between reality and ‘ought to be’-, innovation based upon process needs, changes in industry structure or market structure (that catch everyone unaware), and based on changes outside the enterprise or industry (demographics, changes in perception, mood and meaning, new knowledge- scientific and non- scientific), offering a broader picture of the baseline of innovation.

Additionally, there are authors who see in innovation a creative act, an art, mostly based on imagination, rather than knowledge. For example, Peters (1999) is the most fervent supporter of the idea that in order to obtain innovation, somebody needs to go through a process of destruction and failure. The failure sources is, as stated above, in Drucker’s approach as well.

Peters (1999) wrote that innovation derives mostly from a loss of control and authority, as opposed to Drucker (2000), who saw it as a controlled process. From Peter’s perspective, it is easier to understand why during the history, the term innovator was used rather as an insult, not as an appreciative one. Williams (2009) mentions that in the 18th century, calling someone an innovator was an accusation of being impulsive, and likely to infringe on the law.

There are many types and many domains in which innovation can make a difference. Moore (2008) puts innovation in the context of the category life cycle and he defines innovation types as: disruptive, application, product, platform, line-extension, enhancement, marketing, experiential, value-engineering, integration, process, value-migration, organic, and acquisition. Keeley, Walters, Pikkel and Quinn (2013) defines ten types of innovation, taking into consideration the industry patterns. According to the authors there is innovation in the business model, networking, enabling process, core process, product performance, product system, service, channel, brand, and customer experience.

Other authors identify innovation as technological (Katila & Ahuja, 2002; Nelson & Winter, 1982; Teece, Pisano & Shuen, 1997). The technological innovation plays an important role in helping organizations to differentiate themselves from the competitors, helping them not only to exploit new technologies, but also to find and exploit new opportunities.

One important type of innovation and the one most relevant for the current paper is the social innovation. This concept can either be defined as the process of developing innovation or to the social innovation output itself. Catsouphes and Berzin (2015) state that as an output, social innovation is often thought to be the development of new programs, services, products, or organizations. However, a social innovation could also be a shift in resource development strategies, new organizational structures, public or organizational policy innovations, or changes in service delivery processes.

The same authors also show that there are two principal pathways that lead to social innovation: *social intrapreneurship* (where the innovation is designed and implemented within an existing organization) and *social entrepreneurship* (the term often used to refer to processes where a new organization or organizational unit is established around the new social innovation). Organizations that use business strategies for resource development and management of their mission-driven activities are typically considered to be social enterprises (Catsouphes & Berzin, 2015, p. 408). The most important driver of the social entrepreurship is the focus on creating social value, not on creating wealth (Noruzi, Westover & Rahimi, 2010). In order to achieve the social value, the social entrepreneur has to be a change maker and a pattern-breaker, coming with new combinations of products, services, or production lines (Defourny & Nyssens, 2010).

Analyzing the theories above, we agree with Phills, Deiglmeier and Miller (2008) that innovation has four stages of development: the process of innovating and generation of a novel product or solution. This first stage involves many factors, such as technological, social and economic factors. The second stage is creating the product or the invention itself, stage called the innovation proper. In the third stage, it starts the diffusion and the adoption of the innovation that leads to the final stage, creating value.

Broadening horizons: the social innovation

Social innovation is defined by the Standford University's Center for Social Innovation as a novel solution to a social problem that is more effective, sustainable or just better than present solutions- and for which the value created accrues primarily to society as a whole than to private individuals. (Phills et al., 2008). The same authors point out that we can call social innovation a product, production process, or technology (an approach similar with the innovation in general), but it can also be a principle, an idea, a piece of legislation, a social movement, an intervention, or some combination of them. Indeed, many of the best recognized social innovations, such as microfinance, are combinations of a number of these elements.

Similar with the concept of innovation, social innovation has been present in the research field from the 18^{th} century, starting with Benjamin Franklin who evoked social social innovation in proposing minor modifications within the social organization of communities (Mumford, 2002). Among the most cited authors in the history of social innovation are Max Weber (1968) and Joseph Schumpeter (1935) Weber brought into discussion the relationship between social order and innovation, stating that that changes in living conditions are not the only determinants of social change, but that individuals who introduce a behaviour variant, often initially considered deviant, can exert a decisive influence; if the new behaviour spreads and develops, it can become established social usage (MacCallum, Moulaert, Hillier & Haddock, 2009). Schumpeter has seen social innovation as structural change in the organization of society (MacCallum et al., 2009).

From the point of view of the innovation that delivers both social benefits and business value, Pfitzer, Bockstette and Stamp (2013) propose the concept of innovation for shared value, the authors affirming that organizations which are leaders in innovating for shared values rely on five mutually reinforcing elements: embedding a social purpose in their mission, defining the social need, measuring shared value, creating the optimal innovation structure, and co-creating with external stakeholders. Mulgan (2006) advocates that social innovation represents innovative activities and services that are motivated by the goal of meeting a social need.

In the new paradigm of social innovation, Hochgerner (2009) believes that social innovations, together with the technological and economic innovations could be comprehended as components of social change in a 'holistic' interpretation of innovation. The concept of social innovation is strongly related with the concept of social development, defined as the orientation of a country, region, community or institution to achieve a desirable state, set as an objective, through a planned process and achieved through a set of related activities (Zamfir, 2006).

Hochgerner (2011, p. 5) states that social and economic changes of the 21st century pose further-reaching challenges going beyond the economic context to concepts, the implementation and analysis of innovations. The authors identifies five areas of the challenges social innovation confronts:
- in addition to technical and organizational innovations in the economy, social innovations beyond primarily economic guiding principles and their rationale are gaining increasing importance in research, the public and policy-making;
- in the scientific analysis and research of economically effective innovations – on the basis of indicators, scoreboards, evaluations and benchmarking - the social dimensions (range and outcomes of their effects) must be taken into account;
- apart from the 'classical' innovations (products, processes, organization, marketing), new categories are required for objectives enabling new solutions to social issues (e.g. concerning societal development, cohesion or quality of life);
- based on this, there is a need for a scientifically informed and empirically ascertainable development of indicators, scoreboards etc. for primarily social innovations with their own logics of action
- the interactions between economic and social innovations must be researched in targeted fashion and the results integrated in the relevant fields of policy.

Social innovation has been particularly championed to combat social exclusion: this is the case at both domestic and EU policy levels, but also further afield, such as in the US, where an Office of Social Innovation and Civic Participation has been created (Roy, McHugh & O'Connor, 2014). Consequently, social innovation is present in different organizations, including for profit companies, that, as Dees and Anderson (2006) highlight, though their corporate social responsibility programs create social value.

At the core of social innovation has stood the microfinancing programs that offer loans, savings, insurance, and other financial services to persons who come from economically disadvantaged environments and who do not have access or have a restricted access to the conventional financial systems. Armendariz de Aghion, Morduch (2005) gave arguments in the favor of microfinancing, mentioning that it combats the widespread and intractable problem of poverty and, despite questions about the overall impact and effectiveness of microfinance, there are many voices who advocate that is more effective, efficient, sustainable, and just than existing solutions.

Technology has immersed in the social entrepreneurship initiative and in the social innovation domain *per se*. For example, Moraru (2014), offers the example of the applications allowing for direct payments to NGOs for live events and donations. These applications have payment technologies available, such as point of sale (POS) that can be installed on mobile devices and work as a scanner for credit cards. Also, money transfers through SMS has gained success and developed in new directions of raising money. Vodafone launched in 2007 for Safaricom, Kenya's leading mobile phone operator, M-Pesa (m for "mobile" and pesa, the Swahili word for "money"), a program regarding banking services through mobile technology and micro-financing service, without needing a banking infrastructure. Starting from Kenya, the services expanded to Afghanistan, South Africa, India and Eastern Europe, Romania included.

Social innovation: the driver of the digital civil society

Wajcman (2002) points out that revolutions in technology do not create new societies, but they do change the terms in which social, political and economic relations are played out. Contradicting the traditional belief of social entrepreneurs as solitary bodies, innovating in isolation, existing studies show that social innovation is not undertaken in isolation by lone entrepreneurs, but rather it is shaped by a wide range of organizations and institutions that influence developments in certain areas to meet a social need or to promote social development. On this basis, it is suggested that social enterprises and social entrepreneurs exist within a *social innovation system*—a community of practitioners and institutions jointly addressing social issues, helping to shape society and innovation (Phillips, Lee, Ghobadian, O'Regan, & James, 2014).

Technology has been used for the social good for some time by now, and due to the development of a better tech infrastructure, more internet access and digital innovations, every citizen and every organization can use them to solve problems from the local community or from any part of the world. From applications that inform the farmers about legislation changes (Moraru, 2014), crowdsourced home-cooked meals for people in homeless shelters or sharing software of videos from protests across the world (Bernholz, 2015) brings a new piece of puzzle the new face of the civil society, the digital civil society.

Social media plays an important role in this equation. In a guide developed by Tina Yesayan (2014) for United States Agency for International Development (USAID), called Social Networking: a guide to strengthening civil society through social media, it is underlined the fact that social media can be used as a tool to promote advancements in the field of development, allowing organizations with few resources to multiply their audience reach and connect with people through the use of innovative technologies, and to inform them about important issues affecting their lives and their communities. The authors offer an original example in this respect: to reach Jordanian youth, USAID's Innovations for Youth Capacity and Engagement (IYCE) program decided to use a Facebook city building game which would captivate young people's interest while at the same time raise their awareness about the roles and responsibilities of citizens and public officials, and the value of citizen engagement. USAID and the IYCE partners chose the Facebook gaming platform given the popularity of Facebook and social gaming among Jordanian youth. Social gaming is also compelling from an educational perspective given the potential for peer-to-peer learning. The "Our City" game, released in the spring of 2014, is engaging young Jordanians in building their own "Jordanian city." In the process, they are confronted with numerous challenges that they, as "virtual mayors," must address. The educational objectives are enhanced by linking the virtual game with real-world engagements, such as volunteer opportunities through partnerships with local NGOs (Yesayan, 2014).

In Europe, under the umbrella of the *digital social* concept are developed a series of digital technologies that call to social positive actions. For example, programs like *Community_boostr* (initiative that i*nspires, enables and promotes tech for civil participation in transparency and accountability initiatives in the Western Balkans; the project is run by U.G. Zašto ne and the Action SEE network in partnership with TechSoup Europe)* or *Restart Challenges* (initiative eengaging technology activists and socially concerned programmers who believe that positive engagement can lead to real-world change, as well as others (such as embassies and local businesses) who believe that more transparent and free societies with strong rules of law are more economically healthy; developed by TechSoup in Romania, Czech Republic and Slovakia) bring a tremendous contribution to way social innovation is driving the shift to the digital civil society. Developing hackathons[2], supporting open data[3], developing application and voluntarily supporting tech innovations for the social good, every social innovator becomes a representative of the digital civil society and their work redefines the news, the humanitarian response, or provide services to those in need.

[2] A hackathon (also known as a hack day, hackfest or codefest) is an event in which computer programmers and others involved in software development and hardware development, including graphic designers, interface designers and project managers, collaborate intensively on software projects.

[3] Open data is the idea that certain data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control.[1] The goals of the open data movement are similar to those of other "Open" movements such as open source, open hardware, open content, and open access. The philosophy behind open data has been long established (for example in the Mertonian tradition of science), but the term "open data" itself is recent, gaining popularity with the rise of the Internet and World Wide Web and, especially, with the launch of open-data government initiatives such as Data.gov and Data.gov.uk.

Studying this type of actions, Bernholz (2015) has developed the concept of digital civil society in order to define the initiative that come both from nonprofits, but also from citizens and use digital tools and involve informal networks, loose activist groups, social enterprises, government agencies, and commercial businesses. Then same author offers as example the *#yesallwomen* discussion that exploded on Twitter in January 2014 after murders on a southern California college campus. The discussion of women and sexual assault then moved to the pages of mainstream newspapers and eventually became part of the broader debates about gun rights and mental health. Another case that was intensely debated in the United States was the police killing of an unarmed man in Ferguson, Missouri; social media coverage by participants attracted major television and newspaper coverage and helped sustain attention on these issues around the globe. As Bernholz underlines, the double lens- civil society and the social economy- has an important role in the definition and understanding of the digital civil society, especially on the way citizens use private resources for the public benefit in the digital age.

Peter Back and Francesca Biaf (2014) noted that digital technologies are particularly well suited to helping civic action: mobilizing large communities, sharing resources and spreading power. A growing movement of tech entrepreneurs and innovators in civil society are now developing inspiring digital solutions to social challenges. These range from social networks for those living with chronic health conditions, to online platforms for citizen participation in policymaking, to using open data to create more transparency about public spending. All these types of initiatives are hosted under the umbrella of digital social innovation concept. Back and Biaf (2014) also point out that the people and organisations working on digital social innovation may not identify themselves as social innovators, and are often in very different communities from those who traditionally work on social innovation, such as established charities and social enterprises. Nevertheless, in the effort to map the European initiatives, they have crowd mapped the organization on www.digitalsocial.eu. 1,036 organisations with 646 collaborative DSI projects were part of this action. The final map data shows that UK–based organisations are involved in more than 500 projects, followed by France (198), Italy (156) and Spain (155). Building on this, the European cities with the most projects are London with 90 projects followed by Paris (39), Amsterdam (30) and Berlin (22).

Consolidating the landscape - develop locally, impact globally

In order to draw the basic line of the way social innovation is shaping the digital civil society, we have conducting an online research in order to identify applications and initiatives that have the potential to make an impact in the community, but also that can be translated in any part of the world.

In what concerns the hackathons, initiatives like National Day of Civic Hacking and Random Hacks of Kindness are a good starting point from the collaborative perspective between citizens with innovative ideas and technologist. National Day of Civic Hacking is an event that brings together urbanists, civic hackers, government staff, developers, designers, community organizers and anyone with the passion to make their city better. They collaboratively build new solutions using publicly-released data, technology, and design processes to improve local communities and the governments that serve them. Anyone is invited to take part, irrespectively of their technology background. Random Hacks of Kindness is a joint initiative between Microsoft, Google, Yahoo!, NASA, and the World Bank. The primarily objective is to bring together subject matter experts around disaster management and crisis response with volunteer software developers and designers.

On the crowdfunding front, besides worldwide recognized platform Kickstarter[4], local platform start to emerge, like Slicebiz in Ghana or Yomken, in the Arab countries. Slicebiz is a micro-investment crowdfunding platform providing seed funding for startups in Africa and a connection point of the largest aggregation of scalable African social enterprises to impact investors across the world. Yomken works with people who have brilliant ideas for innovative products and who are looking for a low-risk funding to support their pre-commercialization phase, including free PR and marketing.

[4] *Kickstarter* is the world's largest funding platform for creative projects.

In Israel, Kadima Mada - Kav Or (KMKO) a local nonprofit, developed a unique initiative, providing to hospitalized children aged 5-21 in all pediatric hospitals access to technological learning environments, distance learning technology and educational programs (over 100,000 children each year). The way this is done is via a holistic approach to its services using the advanced technology distributed in the hospitals in various educational activities, most of them documented and/or operated also by the program's website, which helps the community of the hospitalized children become an online community as well. In Spain, the Cibervoluntarios Foundation, a nonprofit who was named in top 50 entities that make the world a better place by Google (2011), promotes the importance of the cyber volunteers in social innovation and as contributors to the digital civil society. Through their program, cibervoluntarios.org, they facilitate events on how to use on how to use a computer and how its use can improve peoples' lives. In Brazil, Cidade Democratica, an online political participation platform who seeks to find innovative solutions based on the collective intelligence, brings together citizens, researchers, and nonprofits in order to map the participatory networks, to write manifestos, and to do research. The platform has managed to engage more than 1,500 people in the debate regarding the development on a stretch of the Amazon River and ultimately generated more than 40 proposals to the dam construction company and the federal government.

Conclusions and further research

As seen in our paper, social innovation is gaining a momentum. Social media, microcredits, crowdfunding, technology *per se* enable the rise of social innovation that, in turn, is defining the digital civil society. First thing to be taken into consideration is innovation. But unlikely the historical term, innovation nowadays relays on the disruptive ideas and technology, which are the main triggers of the status quo change and impact upon people's lives. This means that more and more organizations and persons who want to increase the awareness of their cause and built communities need to address the heart in order to move the mind. The digital citizen, the digital organization are no longer aspirational terms. The constant use of technology, coupled with storytelling, with video materials, with applications leverages the social media for a powerful multiplier effect. The digital civil society will also have the instruments to gather in more efficient ways data and will improve their analytics tools, in order to measure their impact and to scale it. Finally, a strong digital presence combined with social media and the use of crowdfunding platforms and mobile applications will propel the social innovation movement to the philantrophic mainstream.

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THE CORPORATE SOCIALLY RESPONSIBLE INVESTING CRITERIA IN PRIVATE EQUITY: RELEVANCE AND BUSINESS IMPACT

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Abstract. *When thinking about Corporate Social Responsibility (CSR) approach in the business field it is not usual to refer it to Private Equity (PE). Despite this specialized business could be taken as tester for the development, impact and integration of sustainability into the CEO Agenda of the companies, the grey and dark zones surrounding it and the low degree of knowledge to the public in general left it to a backstage position. In addition, the economic importance of the money flows managed by the companies in the Investment sector is noticing the regulators to consider their importance and increase the restrictions and information requirements to all the stakeholders in the market. Prior to the regulators interest in becoming an active stakeholder in the relation of public finances with private equity, the pure players itself have started to prepare regulations and codes of conduct that are becoming really important to understand the flows of investment as well as sourcing the analysis of the returns of the investments in the economic and non-economic environment. This paper is aimed at analysing the importance of SRI and CSR in the PE field of business, highlight best practices of the main players, learn from the implementations carried out and, eventually, set the basics for an integrated model that could satisfy General Partners and Limited Partners requirements in the quest for capabilities in the wide and non-regulated environment surrounding us. This paper will highlight topics to be covered by research in progress.*

Keywords: *CSR; SRI; Private Equity; ethics; finance; stakeholder theory; GP; LP.*

Introduction

The importance of responsibility in the investment process has been extensively studied throughout the academic and practitioners economic research in recent years, mainly due to the growing importance since its inception in the sixties in countries of Anglo-Saxon culture. Not only financial aspects are relevant, but also social or environmental. The objective is not only to exclude "bad practices" from the investment management, but also to include and empower those considered as positive to the market.

The formalization of the concept of responsible investment in the sector of *Private Equity* (PE) is, however, more recent and has come to consolidate the restructuring effort undertaken by listed companies and public institutions over recent years. Some self-regulatory initiatives that have sought to bring order such as In USA the *Private Equity Council* (PEC) *Responsible Investment Guidelines* (2009); in UK the guidelines for responsible investment by GP promoted by the *Brititsh Private Equity & Venture Capital Association* (BVCA) (2008); or the standards of the *European Venture Capital Association* (EVCA) about this subject.

Several factors have delayed the full implementation of the principles of responsible investment in PE (e.g. info to provide useful to competitors, risk of negative impact of the information provided, or interference in decision-making or management). However, the positive factors have asserted their ability to gain ground allowing *Socially Responsible Investment* (SRI) to be useful, for example, in reducing risk through better control, improving operational efficiency and to promote continuously sustainable growth for a long-term. Specifically, the *Principles for Responsible Investment* (UN PRI) outline the investor's commitment based on six elements: incorporation of investment principles Environment, Social & Government (ESG) to capital management policies; active participation in management and decision-making to ensure compliance; information and transparency of proceedings; promotion of the application of the principles; effectiveness of implementation; and implementation of the principles in each report.

To have an idea of the relevance of this subject, it is possible to observe a direct correlation of SRI with both the size and the internationalization of a company (Cumming, 2006). The more responsible the company is, the bigger and international appears. These considerations in the field of PE (referring to Limited Partners –LP– who are investors in portfolio companies & General Partners –GP– who are mostly manager of others' resources) are fuelling changes in how investments are analyzed and managed by the different stakeholders. Whereas some few consider it as part of the due diligence prior to investment, others are incorporating it into their information systems or are scheduling systematic audits about all these aspects. The model is not unique. As a consequence the usefulness of academic analysis to assist in the formalization process could be justified.

The importance of PE has been widely analysed in the academic literature (Prowse, 1998; Blanc, Goldet & Hobeika, 2009; VV.AA, 2010). Its origins date back to 1946 when professors at MIT, Harvard Business School and a group of businessmen decided to capitalize those technological developments achieved during the World War II (McKinsey & Co., 2001). However, the first society was formally constituted in 1958 by Draper, Gaither and Anderson with a limited investment objective focused on small businesses and corporations with a risk guaranteed by the federal state. In 1979 it was allowed the investment by pension funds in this kind of businesses what was a decisive factor for the development of PE as it provided liquidity to the market that hitherto did not exist. After turbulent 80's, the 90's accounted for change and consolidation through increased professionalism of the business that could be considered as the germ of the present activity.

A few advantages of the investment market development brought by the PE should be highlighted at this point (Davis, 2009; Spindler, 2009; Hulser, 2008), especially before introducing SRI in the analysis. By mean of the PE investment the invested company may be positioned out of public direct scrutiny; the ownership model may result in a faster timing for implementation of reorganization processes or launching new products; it is easier the acquisition of new businesses allowing faster non organic growth; and it allows streamlining the process of disinvestment when required.

SRI as a pillar of social development

It is difficult to address the evolution of the concept of SRI without considering the influence of Christianity in this development in terms of economic analysis or social impact (Schwartz, 2003; Heilbroner, 1993; Kinder & Domini, 1997; Mackenzie, 1998). Nevertheless, it is more appropriate to focus the analysis in recent times, especially from the 80's, as it was then when the concept was formalized (Schwartz, 2003) due to the investor concerns about environment, labour, oppressive regimes, security of the products manufactured…; to the growing importance of business ethics and corporate responsibility movement; to the creation of indexes that only incorporated sustainability investments considered as ethical; or to the creation and activity of national investment companies.

In 1998 the UK law makers incorporated a new element in the development of ethical funds by announcing in July that year that pension funds should be obliged to inform if they were adopting ethical principles in their investments. After that, Stephen Timms, Pensions Minister, coined the term *Socially Responsible Investment* (SRI) that has evolved untill the present time.

The development of procedures for ethical investment, considered in some cases an innovation aimed at increasing the portfolio of potential investors, has been used by opponents of Cowton, Anderson et al. (cited in Sparkes, 2001), to demonstrate that this new category, really answered to a need expressed by investors:

> *"(...) But that does not mean what they are doing has a right to be labelled "ethical" with the at least occasional implication that other investments are unethical.... This Report suggests that their own investments might variously be accurately labelled "investments reflecting investors' opinions", "investments reflecting fashionable causes", "scrupulous investments", "ethically simplistic investments"... the overall objection to ethical investment codes is their aggressive simplicity ... a simplicity which ill fits them for their ethical work... there is no reason why the various investment institutions should not continue to serve (their customers) and their preferences. The only objection this Report makes is that they should not describe what they are doing as "ethical" investment."*

The differential factor of SRI lies then in its combination of social and environmental financial objectives targeted at obtaining an economic return on market conditions. It implies that the character of socially responsible does not necessarily result in a reduction of the return on investment. The return must be understood so broadly as return to shareholders and stakeholders and it has not been possible to justify a correlation, either positively (Cummings, 2000) or negative (Fernandez-Izquierdo & Matallin-Saez, 2007), between investment ethics, responsibility and profitability.

The economic literature is undergoing a process of analysis of whether ethical investment is a benefit or a cost to the return on investment. On the one hand, the existence of higher transaction costs and management fees according to Luther et al. (1992), Munnell (1983) and Lamb (1991) comes to the conclusion that SRI is a financial sacrifice in line with the theory of Friedman (1962). On the other hand Waddock and Graves (1997), Davis (1999) and Domini (1989), argue that ethical investment is a premium for the generation of intangibles not directly quantifiable in economic value. Finally, Becchetti and Fucito (2000) use simulations to show that active trading strategies do not result in passive portfolio returns significantly higher or lower.

When analyzing the ethical basis of the investment (Stanley, 1990; Dembinski et al., 2003; Hofmann et al., 2009) it is possible to identify four types of ethical concerns (Dembinski et al., 2003; Hofmann et al., 2009) to consider: ethics based on the value, oriented to profitability, aimed at obtaining a result and aimed at the creation of discrimination criteria.

As a consequence, the ethics underlying the investment may arise in different ways that would not mean a single, or uniform, approach to responsible investment formulas. The active role played by the investor, the individual's will and its ability to condition any decision-making approach is a restriction that has to be considered in every proposal. Similarly, when the relevance of SRI in the case of Europe is observed, it has been possible to conclude that legislation has constrained the development of the concept (Gainet, 2010). As a consequence it is not possible to clearly define the problem and propose a solution as if it were a mathematical equation. From the point of view of the subject that makes the investment, or for the one that will manage it, the same need that it is tried to clarify (the future development expectations and even the degree of certainty about the future impact of the decision that could be taken) is relevant for a few factors that should be deeply considered: who is responsible, to whom and how the relationship model works.

There are several strategies or execution formulas that allow us to characterize the SRI attending to its fundaments (De Graaf & Slager, 2009). Firstly as financial foundation: considering it when social and financial objectives coexist under non-binding basis. This strategy wants to take full advantage of market inefficiencies. This is the example of the thematic funds based on a portfolio that includes leader investments / companies. Secondly as ethical foundation: The social objective determines the main path; financial objectives are restrictive but not binding. The objective is to invest and manage according to the values of the beneficiaries. This is the case of ethical funds with assets exclusion criteria in their investment policy. And finally attending to the creation of value: Strategies that engage with companies incorporating environmental, social or government (ESG) aspects in the analysis itself.

The implementation of these strategies may be differently applied according to each of the typologies and criteria considered. As a consequence, the process of adopting an alternative strategy has different operational implications according to the main driver considered:

Table 1. Models of implementation of the ISR (De Graaf & Slager, 2009)

	Product	Definition	Investment horizon	Examples
Based on value	Exclusion	Sectors or companies are excluded based on certain criteria or standards (e.g. PRI)	no horizon	KLD – Index
	Best in category	Values that best meet certain criteria	Depending on the mandate	FTSE4Good
	Thematic ISR	With specific reasons (water, construction ...)	Typically long-term	
Financial foundation	ESG stock selection	Stocks cherry picking	> 1 yr	Goldman Sachs, Citigroup
	Involvement	Stance as active shareholder	3 to 5 yrs	
	Alternative investments	New products	3 to 5 yrs	Issuing Rights
	Shareholder vote	Use tools of corporate governance	3 to 5 yrs	Hermes Focus Fund
Value assurance	Type of industry	Improving government standards	No time limit	Adjust for every country

The development of the investment vehicles has been also a consequence of the increasing importance of responsible investment (Cabie et al., 2011) resulting in the creation of: Solidarity Funds, investment funds with negative criteria, thematic fund and Multisource ESG funds. Nevertheless, the truth is that the market situation is better described when considering an absence of criteria. Only self-regulation efforts offer a common framework for comparison and future development and, as a consequence, each investor sets its choice and relative weight allowing some common aspects such as purpose, principles, practice and measurement of responsibility (Spiller, 2000; Jayne & Skerratt, 2003). In consequence, the development of these criteria is the answer to the expectation to formalize the interactions between different stakeholders with impact for risks and opportunities as they are associated with the implementation.

Transparency and disclosure of basic information are parts of the common ground for investments. But the frequent asymmetries are an obstacle to let all the agents in the common traffic share the same information and interpret it in a similar way (Rhodes, 2010; Angel & Rivoli, 1997) making viable the comparison. Professionalization of the channels of information has made easier for an institutional investor to apply responsible investment criteria considering few common criteria normally shared. Despite the fact that not all the investors have access to this detailed information by one or other reason (Mackenzie & Lewis, 1999). Fortunately, the development of Corporate Responsibility Reporting gradually reduced the difficulty of access to information, but the training and experience necessary for its interpretation are not always available. It also arises one risk related to the commoditization of the information about responsibility making it ineffective once every business requires certain degree of personalization.

In order to guarantee a coherent interpretation the figure of the referee arises as potential solution. He is of particular interest as guarantor of the settlement of disputes and, eventually, the valuating the fulfilment of reporting requirements and performance of investments and entities related to them (Gootjes, 2009). As the referee cannot be considered an oracle certain boundaries have to be considered due to the restrictions that impact in the analysis such as metrics, diversification, diluted ownership and inadequate interpretation of fiduciary duties or questionable business models (Wong, 2010). The figure of the referee, with limited interest to the scientific literature when compared with the interest of the investment process, does not offer a complete solution to the need of common criteria for SRI but it helps to coordinate the understanding of it. As a result in USA and UK a codification process has been proposed in order to share a common understanding of the concept for its evaluation and future considerations. It has been done with a proactive approach in the willingness of give a few steps. But this process is not closed. The existing codes will eventually evolve in the coming years (by mean of the evolution of self-regulation or by the inclusion of the States where investments take place in the regulatory process) and this is a clear opportunity for standardization in order to achieve global objectives in a common framework.

Private equity as lever of social investment

The application of SRI criteria for PE is described in an interesting form when analyzing an institutional investment noting that the application of criteria of social responsibility was more frequent among those investors paying more attention to accounting standards and having a centralized system for managing the investments (Cumming et al., 2010). This situation was a consequence of the importance of setting portfolio practices; and motivated by the variability of perceptions about legal factors, investment decisions, perception of risk; or mere direct concerns of investors.

It is striking that the degree of interest in the responsible application of criteria differs depending on the market in which investments are made. For example, while portfolio investment assets domiciled outside the Netherlands in more than 10% increased between 1 and 2% frequency of concern or interest in the development of SRI in the case of investors with interests in the United States this percentage increased to 5 and 6%. It is important to note that this example could be more probably associated with self-regulation and national attention to the development of accounting principles related to them than with other SRI aspects. In other example, the centralization of the investment process, either in investment managers or centralized committees, resulted in increases by 40 - 50% the trend to apply responsible investment criteria assuming the same effect on profitability. When analyzing the specific impact for PE investments the increase was higher expecting a higher return on investment as well (Cumming, 2007).

The problem arises when trying to standardize the treatment of responsible investment across different institutions. Although few codes have been formalized, their generalist approach should be personalized when applied by every investor in order to fine tune the scope and impact management (Social Investment Forum Foundation, 2010). There won’t be better or worse but different implementations being useful to define a standard base for comparison purposes. For example, it is common to observe criteria of "negative assessment" or "best practice" trying to filter unsuitable behaviours or trying to strengthen and encourage those practices regarded as “worth pursuing” and differential in the market. The ultimate goal in those situations is to create shareholder value and the value of their participation in business is understood in a relative manner in each case. As a result, good practices are spread as a way of reducing problems and improving management in order to prevent large corporations from exporting negative practices in their globalization processes (McInerney, 2005) more than a source of value creation.

Different problem is observed when considering the fuzzy limit of the real nature of PE investors as a result of the tough economic situation that has arisen since 2008. In this context the GP have begun to diversify and disaggregate their investment decisions. This has resulted in a segregation of investment boutiques that have decided not to invest only in equity of the companies but to invest in other investment segments as debt trying to maximize the return on investment. Investment in equity and public debt creates a conflict of interest not only among the GP and LP, but also between different GP in the same PE consortium and between shareholders and private investors in the process of maximizing the value of a given formula of investment (Birdthisle & Henderson, 2009).

Generally, the fund manager (usually a GP) has a fiduciary duty to the investor (often an LP) which implies that the GP is legally obliged to focus their efforts on obtaining the maximum return on a specific investment. This is commonly agreed in the Limited Partners Agreements (LPA) securing commitments and obligations of the GP and LP together. A very important element of reflection is then the degree of independence that exists in a particular investment portfolio that can maintain opposing profitability positions given investments in equity and debt of the same company. The less you pay the debt vs. the face value the greater expected return for the investor. It implies lower value of the company hurting the investor in it. Thus, limiting the participation of the GP in opposed character investments seems reasonable to preserve the interests of the LP.

These thoughts that conceptually may be reasonable are not easily applied in the normal market practice. One of the common problems associated with the formation of a PE is that investors and managers are people who offer their labour and money as an asset through an advisory scheme in which an entity raises funds from investors and manages the investment and divestment when required. The GP decides the investment (sector and company) that the LP has invested. Thus investors provide resources, not management, and there are normally large financial institutions funding the operations in the background. This situation in which the LP provides financial resources and the GP management resources serves as a breeding ground for a conflict of interest especially relevant in the highly competitive current economic situation.

A significant example of this situation is observed when analyzing the problem of *down-round* (in a negative market situation where proceeds a recapitalization conflicts of interest may arise among investors by the prices at which it is carried out and the impact this has on the overall assessment of the investment). GP's are setting-up funds specialized in the acquisition process of discounted debt managing debt and equity on a portfolio of assets. This investment strategy can have positive implications helping to reduce the risk of buyouts in investments due to the GP knowledge of the managed investments schemes -45% vs. combined. 43% equity exclusively schema (Birdthisle & Henderson, 2009). What is questioned in this circumstance is the responsibility of this type of investments given that a simple policy of diversification could serve to a similar purpose of avoiding the problems of transparency and information to the LP in addition to the obligation the GP has to maximize their profit. In conclusion, the GP would be compromised if holding debt and equity positions simultaneously.

More complex is the situation when contemplating the GP as managers, LP as investors and existing shareholders in the company which in turn may have interests directly or indirectly in any of the above through family offices, vehicles collective investment or direct investment. The situation that arises in this context makes it difficult to give a clear solution (as the case mix is variable).

When proposing a solution to the complexity it is possible to focus the analysis in the agents where the situation is more clear, the GP, defining measures (Birdthisle & Henderson, 2009) to alleviate the tension created between the various actors (investors and managers) in societies. This can be done by using alternatives such as obtaining unanimity among investors, promoting the reduction of participation commitments; developing measures to limit the impact of double taxation and shareholder financial investment or looking for consent and contractual waiver of investors.

There is not clear solution to mitigate conflicts of interest among investors except those already known of more transparency and equal access to investment vehicles for all investors with a potential conflict of interest. Designing and maintaining these matrixes of investment related risks in not an easy assignment. In addition it may imply to incur in additional management costs, not considered in advance, that could represent a disadvantage to the global implementation. But the diversity of businesses related to PE, the variety of interests and the particular requirements for their management (Blanc, Goldet & Hobeika, 2009) promote easier standards of management and investment such as the models of thematic ESG, models based on filtering criteria, and models of community work (collaborative). These entire models have been created trying to standardize the different requirements in a more comparable and stable framework easier to be understood by the different stakeholders. In fact, the models response, in the case of PE, to the high interest existing for increasing the professionalism of the activity and create a structure aligned with a transparent governance process aligned with the legal requirements and the investment and social targets (using ESG performance indicator, increasing the request of information, integrating ESG requirements in the managing practices and, for the case of the LP, incorporating ESG criteria into the RFPs in an appropriate form).

Responsible investment, defined as the incorporation of environmental aspects in the analysis of ESG investment decisions, is a growing discipline that provides opportunities for creating long term value for investors and for society as a whole. In recent years, a growing group of investors around the world has come to believe that this is one of the main developments since the dissemination of proposals on climate change, globalization and social expectations for business transformation (Institute for Responsible Investment, 2007) and, without doubt, its implementation will have a significant role for long-term returns for investors.

This belief has also been reflected in practice in the "mission related investments" (MRI). Those investments in financial products seek to achieve social and / or environmental objectives. Their practice has demonstrated that investment foundations, universities, pension funds, etc., can create long term sustainable wealth taking care not only of profit but for the impact of their investments in the markets they have presence. Responsible investment is not philanthropy, it is mainly investment and this has to be reflected in the behaviour of the investors. In conclusion investing responsibly does not mean earn less, but to earn money considering the social function that is beyond it.

Initial solution: the responsible investment guides

The drafting of guidelines for responsible investment has been the response of the market to the need to specify how the investment can be assessed and peculiarities of it. This is not an effort exclusive of public or private corporations, but requires global collaboration of most of the stakeholders. In fact, in the case of PE investments, the drafting by the United Nations of the *Principles for Responsible Investment* (UN-PRI) is an answer to common public and private goals of building markets that promote development and reduce poverty; invest in clean and efficient technologies that serve to reduce the progression of climate change due to human action; improve work environments and management practices along the value chain of companies; and incorporate good management practices of corporate governance to reduce corruption.

Ultimately the ESG responsibility issues can be material to investors, especially in the long term, and non-compliance with them could have negative effects. The community aspect and the creation of a line of general opinion is essential to explain the development of the concept. The ulterior application of criteria based on a model of principles is an improvement on the SRI compared with that understood in the traditional model. In order to set a common framework, PRI signatories are committed to (PRI, 2011a) incorporate ESG issues to their procedures as well as promoting the use of these criteria in general improving the reporting skills. The principles are not legally binding so, therefore, it does not imply a penalty for noncompliance. This is important because their failure causes ethical effects but not necessarily economic ones. The signers and developers understand implicitly that compliance offers a yield that would otherwise not be achieved and it belongs to environmental, social or government's values owned by the society with a significant impact on long-term.

The enactment of the principles was grounded in a problem of scale in implementing ESG-related aspects. Sometimes by size and others by complexity it was necessary a comprehensive and affordable approach to the different types of existing investors. Differentiate executive functions in society, protect human rights, fighting corruption or reduce carbon emissions to the atmosphere, needed in most of the cases a coordinated effort between shareholders, regulators and other market players that could not be addressed individually. By working together, the signatories of the principles formalized a single voice in defence of themselves and their effective promotion in society.

Formally, the PRI is collaboration between investors and two institutions: UN Global Compact and UNEP Finance Initiative. In the USA the program is administered under the *Foundation for the Global Compact* in New York whereas London has a branch in two organizations articulated in the *PRI Foundation* and the *PRI Association*. The latter is at present time in charge of most of the operational aspects especially with regard to the growth of the PRI Initiative in Europe.

Conclusions

The survey data that facilitates the PRI and industrial developments verify the trend of a growing interest for SRI aspects of PE investments. The last years have been particularly attractive in terms of market conditions and investors have tried to draw more or less luckily. Doing business in times of crisis does not usually coincide with maximum respect for ethical principles (the misfortune of one can mean the benefit of others), but most important given the PRI and the growing concern of LP and GP on the subject it is expected an interesting process of expansion of existing initiatives.

However, not all findings are positive. The multiplicity of codes, the lack of homogeneity and the growing importance of image of responsible investment measures question if it the right solution is been taken. Advancing sustainability models requires more a cultural change that criteria and that change is much deeper than the enactment of some principles that satisfy a select club. It is essential to further develop the work of formation and extension of best practices. A best practice does not mean subtractions of competitiveness but improve of the attractiveness to investors of the company. What begins to be observed is a selection of binomial nature (meets standards / does not meet criteria), which is increasing competition between the GP in order to attract the LP.

This situation leaves open interesting lines of research that will be developed in the future in a more empirical form. Current developments in USA and UK normalizing the concept have influenced the development of it in Europe, have not yet served for its expansion to the Asian market. The perception is that substantially different profiles exist depending on the territory. Knowing the evolution of the concept in Asia and understanding the impact of these developments in other emerging markets such as Africa and how the SRI of the PE can promote sustainable development are aspects that need to be continued in future research.

As no normalized framework has been established until now, this is an opportunity for proposing an integration model of use under different investment forms providing answers to those questions that PE stakeholders are rising currently for improving professionalization, promoting compliance and spread the word of added value of the ESG in the economic field.

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THE LIBERALIZATION OF THE ENERGY MARKETS IN THE GLOBALIZATION CONTEXT

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Abstract. *The paper presents the close connection that exists between liberalism, energy markets and globalization. In the first part we make a presentation of the historical evolution of liberalism, starting with the classical economic liberalism continuing with the neo-classical liberalism emphasizing neo-liberalism and within the latter one, the monetarism. In the second part of the paper we present the energy markets, specially oil, natural gas and electricity. In the third part we define the concept of globalization considered both from an economic and from a social point of view. The core of the paper shows the strong connections between economic liberalism, the liberalization of energy markets, the transnational energetic companies and economic globalization. Among the winners of globalization we notice the transnational companies and among the losers, the national state and the under-qualified workers. The paper works with two important concepts such energy paradox and Strategic Flexibility. Namely, until energy paradox becomes a real threat to further growth of global economy, or until scientists find innovative technology solutions for energy supply, energy geopolitics will have more and more influence on production, transport and consumption of energy from traditional sources, fossil fuels, including indirect influence on production of renewable energy. The Strategic Flexibility approach enables a company to compete effectively today while preparing for an uncertain tomorrow, without either over-committing to one vision of the future or simply hoping for the best. Strategic Flexibility involves using scenarios to anticipate alternative future business environments, defining a strategy that includes actions that will be appropriate regardless of which scenario the future most resembles, but also applying real options concepts to make contingent arrangements for elements of the strategy that may or may not be needed. It is applying real options thinking to the less definite responses to scenario worlds that makes Strategic Flexibility both truly strategic and truly flexible. It is important to find and implement new energy sources especially green energy sources. As a main conclusion we consider that Romania can act an important role in the region because our country is an energetic exporter.*

Keywords: *liberalism; energy markets; globalization; energy paradox; strategic flexibility; transnational companies.*

Introduction

Namely, the current model of industrial development and social structure, impacts of capital on globalised economy, political interests of numerous countries, nations and political elites are so deeply rooted in intensive energy consumption, particularly oil and gas, that it is extremely difficult to change the existing state of affairs, although, on general level of cognition, people are aware that it is unsustainable. In order to have a better insight into the causes of this contradiction, it is necessary to analyze the root causes and the way how this seemingly inseparable link between industrial development, energy consumption and oil was established, including seemingly really inseparable relationship between economic and political interests that created such structure.

Globalisation processes, in addition to other effects, had significant impact on setting up unique models and rules of business behaviour as well asthe actions taken by government bodies. Quite simple model was established – 'take it or leave it' – according to which the countries that accepted economic development aid, adopted also all recommendations, from IMF rules in designing macroeconomic policy in order to meet obligations as part of the terms for getting access to international capital market and foreign investments. Those who accept international standards can have access to development incentives and investments; otherwise a country can remain on a blind track of isolation, stagnation and underdevelopment.

The liberalism

From a retrospective point of view the economic liberalism born approximately three centuries ago went through three main stages: a) the classical liberalism started during the second half of the 17^{th} century spanning two thirds of the 19^{th} century; b) the neo-classicism or marginalization spanned the last third of the 19^{th} century and the beginning of the 20^{th}century;c) the neo-liberalism imposed itself to the forefront of the economic doctrines in the last three decades of the 20^{th} century and the beginning of the 21^{st} century.

a) *The classical economic liberalism*
The classical economic liberalism has its origins in the work of the French physiocrats and of the English economists A.Smith and D.Ricardo. Samuelson and Nordhaus referred to the classical liberals were advocates of the private property, of individualism and freedom, of the natural order and of the non-intervention of the state in economy. The state has only the role of protecting the private property, of securing the social order and the national interests. A.Smith and D.Ricardo demonstrated that the substance of merchandise is work and the size of value is determined by the amount of work materialized in the merchandise. In their viewpoint society is divided into three classes: the capitalists, the land owners and the workers. The repartition of income is made according to the position of each class towards the means of production: the capital, the land, the work. The profit is the main driving force of the market economy.

We can mention some limitations, malfunctions and inequalities which belong to the classical economic liberalism: the market not the man with its needs is at the centre of the liberal doctrine; the exaltation of the economic freedom has brought about the enrichment of the powerful ones, of the industrialists and the pauperization of the workers; they devised and sustained wrong theories, such as the impossibility of the economic crises, of the full use of labor, of the economic equilibrium automatically established.

b) *The neo-classical liberalism or the marginalization*
The neo-classical economic liberalism is a continuation of the classical liberalism and at the same time a fierce criticism of “the dirigisme” ever since its genesis.It is called neo-classical liberalism in order to point out that it is a stage in the evolution of the economic liberalism but it also represents a discontinuity a break from the classical. By the novelties it put forward the marginalization surpasses classicism. Unlike the latter, the neo-classicism goes from consumption to exchange; it replaced the theory of value based on work with the theory of the marginal utility; it included in its research some issues neglected by the classical school such as the rarity as a feature of the economic goods or the role of the psychology in the behaviour of the economic agents; it laid accent on circulation and consumption; it developed the rational economic calculation founding a new economic discipline-the econometrics; it combined the psychological analysis with some procedures and mathematical terms (the marginal calculation), hence the term of marginalization.

c) *The Neo-liberalism*
Since the 7^{th} decade of the 20^{th} century the internationalism and the globalization have profoundly transformed the national economies restraining the capacity of action of the states. The neo-liberalism appeared between the two World Wars. The term was used in 1938 in Paris at the Walter Lippman Colloquium in which took part outstanding representatives of the economic liberalism among which: Ludwig von Mises and Friederich A. Hayek. These economists were joined by other schools of a neo-liberal orientation such as the Freiburg school, the monetarians, the libertarians.

Firstly, the neo-liberalism directed its criticism against the dirigisme, because the massive intervention of the state in economy instead of ensuring the economic equilibrium infringed on the economic and political freedom of citizens evolving towards dictatorship.

Secondly, it revalued the classical and the neo-classical orthodox liberalism by recognizing its main features: the economic individualism, the market, the continuation of privatization, the reduction of taxes and of the public expense but at the same time it critically sets a delimitation from it as it defends an abstract economic freedom to the profit of the versatile and of the powerful. The abstract uncontrolled freedom generates the monopolies. (Suciu, 2008).

The neo-liberalism accepts a certain role of the state in economy but not the limitation of the economic freedom as asked by the dirigisme; on the contrary protect the market and the competition among economic agents by means of a legislative system. The neo-liberals make a clear-cut distinction between competition and the" laissez-faire" policy. According to them only the free prices ensure the economic equilibrium, the economic growth and the rational use of all the means of production (Moldovanu, 2003).

The great inspirers of the neo-liberalism are the economists F.A. Hayek and M. Friedman. According to Hayek the economic efficiency is incompatible with the social justice as the first one refers to a more rational use of resources based on the spontaneous mechanism of prices, whereas the latter refers to the state intervention in re-distributing the income which harms the efficient functioning of the market economy through the free interplay of prices. The main function of the state is the creation of the legal framework which would ensure the competition of the economic agents.

The Monetarism

The decline of the keynesism, beginning with the generalization of the stagflation in the 1970s gave an impulse to the monetarism. An important element criticized by the monetarists at the keynesists refers to the state intervention in economy. In the monetarist view the state interfering in the market economy exercises only a perturbing influence. The monetarists are also against the state interference in settling prices against subventions for private enterprises and against the social policy that aims at offering material support to disadvantaged categories.However the monetarists accept a certain interference of the state in economy on the monetary mass. The golden rule suggested by M.Friedman is an increase of the monetary mass with a certain percentage annualy, the public announcement of it and maintaining it for a long period of time. (Sută-Selejan, 2000).

The energy markets

Energy products are vital both for meeting basic human needs and for supplying electricity. The importance of oil has increased since the beginning of the twentieth century, to become the highest used fuel. Natural gas hs recently had a significant impact on electrical power supply and use. Energy product markets are: oil, natural gas and electricity.

Oil. The English word petroleum derives from the Latin for stone and oil-petra and oleum. Crude oil viscosity (thickness), specific weight (density) and colour may vary a lot. In general, crude oil is named for the land from which it was extracted, i.e. Brent or West Texas Intermediate- WTI.

There are seven main oil producing regions: Russia, China, the Middle East, Northern America (USA and Canada), Africa, the Northern Sea and the Far East.

Oil is currently the world biggest energy source. Its price depends on: events in the Gulf (60% of the world reserves), disasters, litigious industrial relations between the oil producing/refining countries, the OPEC's conclusions resulting from the regular meetings, the absolute levels of price, seasonal reasons duet o which refineries produce more petrol at the end of the winter.

The oil market creates an oligopoly situation. Several producers dominate it, the economic power of which is great enough to drive market prices (BP, Exxon, Royal Dutch Shell). The oligopoly market can witness direct agreeements between companies. The dominant role in oil producing stays with the OPEC, an intergovernmental organisation which covers three continents: Algeria, Angola, Ecuador, Indonesia, Iran, Irak, Kuwait, Lybia, Nigeria, Quatar, Saudi Arabia, the United Arab Emirates and Venezuela. Oil price behaves the same as that of any other commodity, rising and falling depending on many factors, such as demand and supply, political events, natural disasters. Prices on the market are not determined only by the demand and supply balance, but also by the buyers' and salespersons' forecasts connected to the trend of the oil price. If buyers anticipate a change in the supply in the upcoming period and an increase of prices, they will wish to buy oil today to accumulate some reserves and to protect themselves against future higher prices. Similarly, if buyers anticipate an increase of the supply or the future decrease of prices they will postpone buying (Wiley & Sons, 2002).

Natural gas is a mixture of hydrocarbon gases, which contain only carbon and hydrogen, and low quantities of other gases, such as carbon dioxide, nitrogen, ethane, propane, butane. Methane (CH_4) is the main component of natural gases, but its content varies depending on its extraction site. Extracted natural gas is called moist gas or humid gas as in order to be transported, it has to be refined and processed into dry natural gas. During the refining process, less volatile hydrocarbons (propane and butane) are removed. The remaining dry gas is almost pure methane which is transported by pipes or is liquefied at low temperatures and then transported as liquefied natural gas.

The importance of natural gas as energy source has increased for the following reasons: it is a cleaner energy source than oil, unprocessed oil supply fluctuates, energy-producing industry has liberalized (USA, UK), the EU passed the Gas Directive.

Electricity As of the 80s major changes have affected electricity supply industries in many countries. Wholesale electricity markets were set up. Their development was tightly connected to several factors:
a. Liberalizing. There are currently many regions in Europe and the US providing industrial and household consumens with the possibility to select their energy distributor.
b. Price competitiveness. This product's price depends on the fuel or the energy source needed to produce electricity (oil, natural gas, coal, uclear power, solar panels, geothermal energy and wind power). Price is also impacted by the seasonal character of the supply demands.
c. Technological progress connected to energy production and distribution. Electricity is known as a flow-type product, as it cannot be stopped in the conventional manner. Given that, it is not easy to set its price, as variables involved are many and they cannot be predicted.
Some opf the most important variables to which electricity price is submitted are the following: demand, which is determined by the use time, geographical setting of production site, energy source- oil, coal, nuclear power, hydro-electrical, unforseen price rises and falls, seasonal energy demands, dependance on the existing energy transport facilities, weather (Wiley & Sons, 2002).

The futures-type contracts and the options for energy products are now traded at several international stock markets, among which: NYMEX (New York Mercantile Exchange), IPE (In ternational Petroleum Exchange), CBOT (Chicago Board of Trade), NZFOE (New Zealand Futures and Options Exchange), SFE (Sydney Futures Exchange), Scandinavian NordPool.

The globalization

Globalization is a complex process by which national economies can be integrated in the world economy some directly, others by the intermediary of the regional groups a process achieved through several main channels, such as the trans-frontier circulation of capital, commodities, technology, information.

Globalization is defined by its main features, namely the compression of space and time, the new technologies and communications, the integration of the financial markets and the movement of capital, the externalization of production and retail, the globalization of some vital issues (environment, organized crime, terrorism, migration, security, peace). Globalization is at the same time a process of reconsideration of the relationships North-South, as well as between the centre and the periphery largely speaking, since in these relationships both the internal and the external relationships are at play among spaces, such as countries, regions or large territories (Stănescu, 2009).

Globalization is not a linear process but a contradictory one with advantages and disadvantages with winners and losers with wealth ad poverty, unemployment, social and economic inequities with different actors of the political, economic and social life such as: states, trans-national companies, over-national and international organisms and institutions.Consequently, an initial schematic analysis shows that there are more winners than losers from globalization. Most people gain from borrowing and consumption and only very few lose as productive workers in the developed countries and capitalists in the developing countries. (De la Dehesa, 2007)

The contradictory character of the globalization process lies in the inter-conditioning of advantages and disadvantages. Thus, the growing occurrence of the trans-national companies and the intensification of the direct foreign investments, the dissemination of the top technologies and information and of the international commerce lead to an increase in productivity and implicitly to the economic growth and to an increase in the living standard. However, the dominant role of the developing trans-national companies may determine a vulnerability of the economy in these countries and in certain conditions expose it to crises and social unrest.

The main beneficiaries of globalization are the trans-national companies which by transferring some production capacities from the developed countries, by the intensification of the direct foreign investments, by the introduction of new technologies and a performance management in the developing countries obtain in exchange work force and raw materials at a price several times lesser than in the countries of origin (Suciu, 2008).

Globalization means at the same time competitiveness. In order to become competitive the countries in a process of transition and development have to make constant efforts on their own to overcome the backward state of their economies. The countries receiving trans-national companies receive duties and taxes from the latter's activity on their territories which make the state budget revenue grow. Owing to the contribution of the trans-national companies some countries in transition and on the way of development have passed from the category of countries exporting raw materials to the category of countries exporting manufactured products.

The energy paradox and the necessity of strategic flexibility

Human civilization's aspirations and unlimited desire for achieving progress are confronted with limitations in material base for achieving such progress. The fact is that modern civilization requires more and more energy for further progress, specifically, it requires oil and gas, while at the same time oil and gas reserves are declining with the prospect of considerable shortages within the period shorter that average human life. Hence, for the first time in our history we are faced with the paradox of unlimited human goals and limited possibilities for meeting these goals. This is the paradox reflected in limited resources and unlimited human desire to achieve growth, which appeared for the first time in history in concrete circumstances and realistic form.

Why all the warnings sent out by scientists on the problem of unlimited use of limited resources and the need for preservation of the environment on the Earth have not been translated into efficient and rational use of natural resources? How is it possible that in the terms of global knowledge and global dissemination of information, a large majority of people simply ignored reasonable messages and recommendations based on that same knowledge? Nevertheless, the modern world found itself in a paradoxical situation. The collision of interests and reason, short-term and long-term development goals, energy and growth needs, and limitations of available resources, push globalised economy into a new spiral of energy consumption.

As a result, limited resources, tense geopolitical relations and ideological prejudices created a new spiral of conflicts which can lead to fierce fight for energy, but also for other natural resources such as potable water and space. The extension of intensive industrial and economic development based on today's energy and technology foundations, opens up the issue of sustainability of future development for generations to come (Dekaniæ, 2011).

The key problem of the world energy supply system lies in the fact that economic model is based on the existing production technology system driven by fossil fuels which provide relatively cheap energy, but which is unsustainable in the long-term. Much is uncertain about the business environment facing energy companies in the early part of the 21st century. Opportunities and threats are inherent in the division of the world into energy haves and have-nots, yet how the situation will play out is hard to say.

Strategic Flexibility: Framework for Action

Deloitte Research has developed a framework we call Strategic Flexibility to cope with and exploit exactly this type of dilemma. This approach enables a company to compete effectively today while preparing for an uncertain tomorrow, without either over-committing to one vision of the future or simply hoping for the best. In terms of process, Strategic Flexibility involves using scenarios to anticipate alternative future business environments, defining a strategy that includes actions that will be appropriate regardless of which scenario the future most resembles, but also applying real options concepts to make contingent arrangements for elements of the strategy that may or may not be needed. It is applying real options thinking to the less definite responses to scenario worlds that makes Strategic Flexibility both truly strategic and truly flexible. Managing strategic risk according to the Strategic Flexibility approach involves four stages – Anticipate, Formulate, Accumulate, and Operate:

Anticipate: Identify the drivers of change and define different ways they might evolve and interact over a period of time such as five to 10 years. That usually results in four or five scenarios that capture the range of most-plausible futures.

Formulate: Define an optimum strategy for winning within the specific business environment of each scenario. Then merge these plans into a single strategy with two components – "core" elements (initiatives that show up on the "to-do lists" for most or all of the scenarios), and "contingent" elements (initiatives that are needed under the circumstances of just one or two scenarios).

Accumulate: Acquire any assets and capabilities needed to execute the core elements of the strategy. Conventional scenario-based strategy methods often stop with that. But here there is more. The next step is to make limited commitments with regard to those assets and capabilities that will be essential if but only if certain circumstances emerge. This may also involve converting fixed commitments the company has previously made to more flexible arrangements that provide more leeway. These flexible commitments are the "real options" that provide the right but not the obligation to move in a particular direction.

Operate: Implement the strategy. Put the core elements of the strategy fully into effect immediately. With respect to contingent elements, monitor the business environment and either preserve, exercise, or abandon the real options depending on whether unfolding events make it more or less likely the conditions that would make them valuable will materialize. (*www.bglegis.com/globalEnergyRisk*)

Strategic Flexibility permits a company to proceed with certain international initiatives confident that they will be sustainable under a broad range of future scenarios, including those in which globalization unravels. This approach also provides a means for limiting dependence on international ventures whose future is not so assured. A stake in them can_be intensified, reduced, or abandoned as ongoing events provide better insights as to which way things are moving in the global arena.

Connections between liberalism, energy markets, globalization and transnational companies

The term globalization refers to the globalised market of goods, services and capital dominated by global corporations. Large international banks and globalised financial markets enable business operations around the world and transnational circulation of goods, services, capital and knowledge. Global corporations operate on global market by using capital and moving the capital and resources from one end of the world to the other for the purpose of their growth optimization and profit. The term globalization is closely related to multinational companies that operate on the global market. Although international corporations, particularly oil companies, appeared already at the beginning of the 20^{th} century, their actual expansion in many industrial activities took place in the 1950s. Their strengths and advantages became fully prominent by the end of the 20th and the beginning of the 21st century as a result of political democratization, flourishing of liberal economies, technological advancements and development of communications, particularly Internet. Internet in combination with satellite telecommunication network provided a base for global information technology.

Energy activities, as infrastructure for economic activities, developed in tandem with capital and politics, by corporate managers and government representatives. In some cases political influence was very strong, although frequently hidden. Intensity of political control over oil industry differs on various continents. In addition, part of energy activities, which are characterized as natural monopolies due to the nature of network infrastructure in their operations, is of primary interest for any state's fiscal policy. For almost a century oil industry has been a primary source of tax income of a country (Dekaniæ, 2011, p.309).

Energy sources and transport routes caused a number of political conflicts, tensions and clashes. Energy and energy reserves, as an important precondition for achieving economic growth, represent one of the most important foundations for planning of the future. In such a context energy is beyond economic or development goals, it becomes a key political interest. It seems that the world became politically multi-polar once again, but at the same time there is one geopolitical constant – energy and energy resources. Today, it is clear more than ever that economic and political power go hand in hand with lines of force of energy geopolitics. It is more and more clear that energy superpowers, the United States, Russian Federation and China have also become economic superpowers. The United States certainly are a superpower for more than fifty years, Russia gains this position as energy prices go up and it possesses huge reserves, and China becomes a superpower by a combination of indigenous coal reserves activation and import of oil. Thus, energy and energy resources have a dominant role in determination of key directions of economic growth, but they also affect repositioning of political power. Energy is certainly a global development factor and energy geopolitics one of key factors for ensuring political power.

Thus, apart from globalization of markets and political powers, the modern world has entered into an era of global instability. With escalation of terrorist activities and deepening of political crises in the Middle East international oil prices started to rise and resulted in price increase of all other energy sources in the second half of the first decade of the 21st century until the mid 2008 when the world was struck by financial crises. Privatization and restructuring of energy sector in most Western European countries boosted use of natural gas in electricity generation. In addition, governments supported consumption of natural gas through environmental protection policies. Higher consumption of gas induced also more intensive technology transfer from developed to developing countries. Many governments promote use of natural gas and development of gas infrastructure. Considerable progress in these areas has been achieved in Eastern European countries where a number of enterprises are still state-owned, however, privatization and restructuring of energy entities gains momentum. (Dekaniæ, 2011, p.312).

Renewable energy sources have increasingly important role in the energy sector of the 21st century, although oil and gas have so wide application that we cannot talk about jeopardizing fossil fuels position. The cost of energy generated by renewable sources is still uncompetitive to enable development of wide application; however, its positive impact on the environment paves the way for expansion of renewable energy use. Apart from nuclear energy, some other primary energy sources have been challenged and have had their ups and downs in respect to intensity of construction, like hydro power for electricity generation. Hydro power is considered a permanent energy source; it depends on natural and investment potentials of a country, as such projects require large investments, but also on global technological advancements. Large hydro power plants give rise to growing concerns due to negative impacts on the environment. (Dekaniæ, 2011, p.312).

The oil price in macroeconomic perspective exhibits a large volatility. Increases in oil prices affects the industrial production, business cycles, current account deficits and financial markets. According to Bildirici and Omer Ersin the oil prices possess important characteristics such as nonlinearity, asymmetry, there sold effects should lead the policy makers to evaluate the policies to be applied with great care. The nonlinear volatility models capture the data generating process more effectively. The policies aimed at stabilizing the volatility of oil may have destabilizing effects on the production and on financial markets. This result translates itself to different derivatives and the economy and this destabilization effect is largely under the influence of persistence in oil prices and also in the external shocks that oil prices are subject to.

In general, the natural gas market in Europe has been dominated by long term contractual relationships that allowed a national operator to control the distribution of gas from producer to consumer and allowed little, if any, room for competitive threat from an third party supplier. Liberalization in natural gas markets usually means that capacity rights and transportation services are marketed separately. A chief benefit of this arrangement is that it should stimulate production at the margin by removing any constraints for potential producers to access a market, i.e. – it provides physical liquidity. In fact, a liberalized market may have facilitated a better reaction to the cut-off of supplies precisely because it would have allowed for a greater number of supply options.

Conclusions

Oil price is an important factor to the world economy performance. A price rise leads to a transfer of the income from the importing to the exporting countries via trade exchanges. The magnitude of direct effects duet the increasing price depends on the weight of costs for oil in the national revenue, on the degree of dependence on the import of oil, as well as on the capacity of the end users to consume less.

Effects are also tightly connected to the increase in the natural gas price resulting from the oil price rise, to the economy depending on natural gas and to the impact of high prices on other forms of energy, competing with oil or being generated based on it.

The faster oil price rises and the longer its high level lies maintained, the more important the impact on macroeconomic. For the oil exporting countries, its increase leads to the direct increase of the real national income through the high revenues achieved by exports. In the case of importing countries, the high price leads to inflation, to high production expenses and low investments. Revenue to the state budget decreases, increasing the budget deficit, which leads to a rise of the interest rate.

Romania adopted European Energy Charter as a part of international commitments in the process of joining integrated European community. This document represents one of the cornerstones of liberalization and regulation of the energy markets. The principle of separation of energy networks from energy production and trading and establishment of regulated system of energy transmission through energy networks represents the essence of regulated energy market in the European Union. It sets the rules for free access to energy networks and other elements of energy infrastructure, prevents creation of monopolies in managing of energy networks and affects development of energy markets. Implementation of these principles represents the core of the Third Energy Package for regulation of energy markets in the European Union. In addition, in parallel with transformation of European Community into European Union the energy strategies were redesigned in line with the principles outlined in European Energy Charter which promoted common regulation of energy markets and certain limitations to national energy policies. In this respect, Romania listed to the Bucharest Stock Exchange the companies Romgaz, Nuclearelectrica and Electrica, a process that is of interest for both Romania and foreign investors.

Basic principles of European energy policy were based on understanding that current situation on international energy market did not favor buyers and importers of energy, therefore western European countries supported EU regulated energy market with free access to all participants. Romania and its energy companies will have to adjust their energy policy to the process of globalization and its requirements, but at the same time to safeguard its national interests and work toward integration into European energy flows. Therefore it can be assumed that energy geopolitics and not global rationalism of sustainability will prevail for some time and affect relationships in energy sector and in planning of overall civilization development.

The neo-liberalism represents the interests of the capital investors and of the employers who preponderantly sustain the benefits of globalization by policies meant to liberalize the financial market, the capital, the technology, the international commerce and attribute to the state a minimum contribution in the social protection. The neo-liberal orientations of different nuances conceive globalization from the perspective of the free market by efficiently using the world's constantly dwindling resources, by maximizing the world's wealth for all the peoples and social categories. In their view, globalization will bring about a convergence of the economies of the developing countries with the developed ones. The economic integration of the developing countries within the global economy will occur by increasing the rates of economic growth.

Nevertheless, the free market economy does not bring only advantages for all the countries and all the social categories. It develops in a chaotic and contradictory manner with advantages for some and disadvantages for others. If the national states were completely eliminated from the market economy or reduced to a minimum of attributions for the protection of some socially handicapped categories, as some neo-liberal orientations sustain, then the nation-state would not be able to step in for the correction of anomalies and market economy crises.

Globalization is at the same time a necessary and objective process. To disregard the existence of globalization and remain outside this process as a national state or company would mean a condemnation to isolation and stagnation. Among the deviances of globalization are on the one hand the liberalization of markets, of the international commerce, of capital circulation, of technologies, of information, capable of generating an unprecedented economic growth and on the other hand globalization triggers a spectrum of social-economic inequities in which the gap between the heavy- industrialized countries and the majority of the developing countries and between the wealthiest social category and the poorest one is continually deepening.

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RETHINKING PUBLIC ADMINISTRATION BEYOND TRANSPARENCY. THE ROLE OF TRAINING AND EDUCATION

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Abstract. *Public institutions should serve the public interest as result of dialogue and respect for people moving towards a better responsiveness in front of citizens as partners in the work of government. Enhancing transparency to ensure access of citizens to government information is regarded as an essential value for ensuring democratic participation and informed decision-making as to favor trust of citizens in government and increase government accountability. Public sector reforms as attempts at constructing organizations as legitimate in front of the citizens lead to change supported by programs of training and education leading public employees to learn and absorb values and behaviors coherent with a new public service. Training and education help to hybridize the administrative and organizational culture of public institutions overcoming legalistic and bureaucratic logics by exerting influence on ethics and behaviors of public employees to sustain reform oriented to enhance transparency and openness as values for driving change.*

Keywords: *training and education; transparency; public management reform; managing change; public administration.*

Introduction. Understanding public sector organizations

Public sector organizations seem to differ with regard to private sector organizations because have to serve the national community rather than generating profit for government (Parker & Gould, 1999). Some distinctive characteristics of public organizations in comparison with private sector organizations are identified (Rainey, 1996): a broader scope, ambiguous, more complex and conflicting goals, many external sources of formal authority and influence, greater public scrutiny and oversight, more red tape and elaborate bureaucratic structures, high levels of public service motivation, low stress on monetary incentives and less managerial decision-making autonomy. Differences and similarities between public and private organizations emerge with contradictory aspects and anomalies. Thereby, only more bureaucracy, a stronger desire to promote public welfare and lower organizational commitment tend to significantly characterize public management with regard to private management (Boyne, 2002). Public managers seem not to differ from business managers on perceptions about organizational formalization despite the assertion that government agencies have more red tape and rules than private organizations have (Rainey & Bozeman, 2009). Public and private management seem to differ mainly with regard to objectives and setting (Lane, 2009): governments accomplish social objectives delivering services in the interest of a national community, whereas private enterprises do business to make money by maximization of profit for their owners; private management is oriented towards the market that shapes the success of enterprises determining opportunities for profitability and threats for survival; politics and power set public management. Governments manage trust given by citizens. Goals are decided in virtue of a political process through which decisions are taken.

The value of public services reflects the political preferences emerging in the democratic election process. Public management relies on general and special administrative law in a manner not comparable with private sector. In public organizations the traditional style of paternal, standardized and collectivized human resource management tends to be prevalent. Public organizations are more involved in staff training and development, participation and consultation than private organizations. Public organizations tend to offer equal opportunities and promote employees welfare. Differences between private and public sector with regard to human resource management, organizational policies and practices seem rely on the persistence of a public service ethos among public employees (Boyne, Jenkins & Poole, 1999). Some characteristics are necessary to build effective government organizations (Rainey & Steinbauer, 1999): supportive behaviors from external stakeholders attentive to agency mission; agency autonomy in definition and implementation of its mission; high attractive mission and valence; a strong organizational culture mission-oriented, effectively linked to mission accomplishment; coherent leadership behaviors in terms of stability, commitment to mission, effective goal setting, administrative and political coping. New technologies and development of human resources relate to agency effectiveness improving professionalism and motivation of their members. Professionalism tends to enhance performances of the agency by increasing its autonomy. Effective government agencies tend to have high levels of public service motivation as a general motivation to serve the interests of a community of people, mission motivation in terms of contributing to general and valuable public service (mission motivation, task motivation).

In front of the citizens distrusted of democratic institutions public institutions have to promote transparency as open organizations by investments in human capital by training and education of public employees to support reforms that increase transparency leading to change of administrative culture, practices and behaviors. Administrative reform does not automatically lead to change. Education and training help to develop change leading employees to learn values coherently with new public service.

The aim of this paper is to explain that reforms oriented to promote and enhance transparency leading to change require training and education of public servants coherently with behaviors, values and ethics of a new public service.

The study is based on archival data relying on a literature review to sustain the discussion with regard to: overcoming promises of efficiency and effectiveness by New public management (Npm) doctrines and ideas moving towards a responsive public administration coherently with embracing a new public service; understanding the relationship between reform and change; developing training and education of public employees as strategic source to implement reform for driving change to sustain the enhancing of transparency leading government to restore trust with citizens.

Towards a responsive public administration beyond the promises of new public management

In the public sector of every government with developed political systems and highly institutionalized administrations, in 1980s-1990s, New public management (Npm) doctrines emerging as response to inefficiency of the traditional model of managing *res publica* assumed that public organizations should import managerial practice from the private sector and focus on management, on performance appraisal, focus on re-organization of public bureaucracies disaggregated into agencies more flexible and output oriented, on financial efficiency and performance measurement, on separation of politics from management (Aucoin, 1990). Thereby, governments have challenged the basic beliefs of the traditional model of public administration coherently with theories and studies confirming the inefficiency of bureaucratic provision. Npm as a set of doctrines and ideas about what should be done in administration can represent a transformation of the public sector in its relationships with government and society as reaction to the perceived lack of results and customer orientedness of public organizations delivering services or implementing policy.

The change from traditional public administration to new public management tends to modify the way public administration can operate in public service delivery and the scope of governmental activity. Some points are highlighted to sum innovation of new managerial philosophy for public sector reform: greater attention to the achievements of results and the personal responsibility of public officials and servants; overcoming the traditional and classic bureaucratic pattern of organization for a more flexible structure in terms of work organization and personnel management; organizational and personal objectives have to be clearly set and measured through performance indicators; staff and personnel have to be politically committed to the government actually leading the administration rather than being non partisan; government functions are more likely to face markets tests; reducing government functions through privatization (Hughes, 1994). The managerial program comprises seven main points: hands-on professional management, accountability requires clear responsibility for action; standards and measures of performance that are explicit for clear statement of goals doing more with less in accordance with discipline and parsimony in use of resources, cutting direct costs; emphasis on output controls and competition in the public sectors through a disaggregation of units manageable to gain the efficiency advantages and stressing the private sector styles of management practice towards flexibility in hiring and rewards; a stress on greater parsimony and discipline in use of resources doing more with less, by cutting direct cost and resisting to union demands (Hood, 1991).

Thereby, public management reforms driven by Npm ideas have shown difficulties of applying, limits and contradictory effects. For example, public organizations with high degree of publicness as organizational attachment to public sector values (due process, accountability and welfare provision) differ from organization with a low degree of publicness in terms of complex tasks, professional orientation, many external stakeholders, conflicting environmental demands and low managerial autonomy being reluctant to adopt organizational changes coherent with prescriptions of Npm (Antonsen & Jørgensen, 1997). There are some constraints of the management state (Lane, 2009): neglect of meaning, no preservation of intangible values, unresponsiveness to requests and demands of citizens, democratic deficit within institutions. Npm reforms tend to stimulate competition by increasing the chances of unethical behaviours associated with individualistic values because competition mechanisms reverse the traditional hierarchy (based on equity and legality) of the values of public servants (Maesschalck, 2004). Negative aspects of Npm measures concern inequalities, inequities or exposure of public services to self-interested or dishonest behaviours (Pollitt, 1995) encouraging corruption as to weaken accountability suiting personal interest of top officials (Dunleavy & Hood, 994). Npm doctrines have emphasized the performance achievement as the ability to produce results ignoring the development of a new paradigm of democratic accountability as to enhance the trust of the public in government performance. Public managers will be able to respond to accountability question producing results and accomplishing public purposes that citizen value (Behn, 1998). Npm doctrines contributed to deteriorate the corporate culture, the traditional work ethos and non-functional values, increasing a decline in motivation and work satisfaction, greater workload and stress (Diefenbach, 2009). Despite of leading ideas of Npm formality and regulations imposed on bureaucratic structures increased as evaluation and audit compliance oriented. Npm reforms embraced one-size-fits-all organizational forms evidence-free instead of just announced evidence-based learning (Hood & Peters, 2004).

Creating public value relies on public manager sharing responsibility with other official and citizens to decide what is valuable to produce with public resource by interacting with people to determine and organize the ends and means of service delivery and production (Moore, 1995). Public institutions gaining legitimacy and maintaining the organizational reputation as a set of beliefs about capacities, intentions and missions (Krause, Moynihan & Carpenter, 2012) have to serve the public interest as result of dialogue and shared leadership based on respect for people dealing with producing public services positively judged by citizens moving towards a better responsiveness and effective collaboration with citizens as partners in the work of government (Vigoda, 2002a). Improving public-agency performance relies on developing active citizens for improving client satisfaction (Schachter, 1995). Public organizations producing high performance serve the people leading to involvement and participation of citizens sharing ideas and knowledge with public officials (Vigoda, 2002b). Public organizations should ensure that principles of democracy are maintained serving the public interest as result of dialogue about mutual or overlapping interests. Public servants should attend to law, community values, professional standards and citizen interests (Denhardt & Denhardt, 2003). Building a responsive organization seems to be a difficult task because public organizations tend to be based more on efficacy and efficiency than following a responsive action (Burke & Cleary, 1989). The public interest is better advanced by public servants and citizens that are committed to making a meaningful contribution to society. The primary role of the public servant is to help citizens to meet their shared interests rather than steering society (Denhardt & Denhardt, 2000). Collaborative responsiveness requires administrators to be open to learning and change by interacting with citizens (Bryer, 2006). The role of government is to promote citizenship by fostering public discussion and integration as to articulate the public interest. Accordingly, the role of public administrator is to build collaborative relationship with citizens, encouraging shared responsibilities and understanding of public values, by involving citizens in government activities (Bourgon, 2007).

Understanding the relationship between reform and change within public administration

The history of re-organization in the public administration is considered to be a history of rhetoric (March & Olsen, 1989). Reforms, as officially formulated, are an indicator of the current political rhetoric (Czarniawska-Joerges, 1989). Reforms can be seen as ways of constructing organizations and regarded as routine processes rather than breaks in organizational life. Public organizations tend to avoid reform because of increasing values that are difficult to achieve for organizations rather than improving performance (Brunsson, 2006; Brunnsson & Sahlin-Andersson, 2000). Public sector reforms can be seen as a planned process oriented to the formal side of legislative activities. The rhetoric element is conceived as an opportunistic function in accordance with prevailing ideas and fashions (Finstad, 1998). It is possible to distinguish between the legalistic side of reform and desired ends of administrative reform evolving towards the change. Reform lead to change with support of people willing and motivated to assume new values and coherent behaviors. The administrative reform can be considered as a political and aware process of change concerning both the administrative procedures and the role of the actors involved. Administrative reforms lead to change coherently with high degrees of intensity in terms of abandoning the *status quo* logics for a new approach based on different and new values. Thereby, reform characterized by high intensity and wideness in terms of process, activities and operations interested take the risk to be difficulty manageable threatening the stakeholders involved. Reforms concerning less wide activities and areas of intervention but characterized by high intensity serve as clash of administrative routine and stimulus for indirectly changing (Capano, 1992). Changes run on the legs of people through behaviors, values and culture emerging in antithesis with previous paradigms and norms. Reform is driven by formal rules. Change cannot proceed merely by laws but requires new professional skills and behaviors of public employees to ensure coherent processes and available outcome (Dente & Lo Schiavo, 1999). Change occurs as new organizational behaviours experienced by people are introduced and implemented through explicit and tacit tasks (Solari, 2007). Organizational innovation can occur in relation to high capacity to sustain change and exceptionality of change to be introduced and implemented (Pilati, 1987). Building internal and external support, ensuring support and commitment of top management, providing resources, as to make change embedded in the institutional context are necessary characteristics to sustain successful changes within public sector organizations (Fernandez & Rainey, 2006). Reform as a set of laws, regulations and decrees may lead process of change in terms of new behaviors and values adopted by people managing techniques and interpreting laws. Change may proceed through the people educated to values, beliefs and ideas that effectively serve to restore the relationship of confidence with people as co-producer of public value. The cultural variable is of essential importance in order to understand why administrative reform can vary in nature and follow very different paths (Capano, 2003).

The prevalence of administrative law in governing the conduct and actions of public bodies has had an important influence on administrative reform coherently with *Rechtsstaat* tradition as opposed to *public interest* Anglo-Saxon system. The dominance of the administrative law paradigm influences on the process of change in the implementation of administrative reforms in countries with a legalistic tradition (Pollitt & Bouckaert, 2000). Public management reforms driven by laws require a strategy of change based on a long-term perspective taking in account the effective difficulties for change; the diffusion of a culture of change through training and education initiatives that have impact on competencies and skills of people for breaking bureaucratic logics relying on respect of formal rules to have at disposal agents for innovations sharing the objectives of change (Borgonovi, 2005). Laws drive public management reform taking the risk of emphasizing values and norms drawn by both bureaucratic paradigm and legalistic approach increasing the distance between formal organization (rhetoric) and reality (Adinolfi, 2004).

Promoting transparency to restore trust with citizens. The role of new technologies

Even if public trust in government or in the public sector seems to become an issue on the political and social agenda only at a certain and not at other moments (Van de Valle, Roosbroek & Bouckaert, 2008) public institutions tend to sustain trust of citizens in government by promoting transparency and increase the opportunities of citizens access to information for building a participatory and shared good governance. In democratic societies people have the right to access to government information. Transparency as one of the fundamental moral claims is regarded as essential for democratic participation, to sustain trust in government, to prevent corruption, to ensure an informed decision-making and accuracy of government information. Governments by promoting transparency to put pressure on public administration performances tend to increase accountability, produce and share more information allowing citizens to monitor quality of public services and participate in policy processes. Informing citizens helps to improve policies and enhance governmental legitimacy (Meijer & Thaens, 2003).

Transparency as the availability of information about an organization allows the external actors to monitor the internal workings or performance of that organization. Transparency can be interpreted as an institutional relation and information exchange, referring to workings and performance of that organization (Mejier, 2013). Transparency is seen by policy makers as a panacea for enabling good governance making government official performing better their task and preventing corruption phenomena. Democratic institutions have to behave as transparent organizations maintaining the relationship of confidence with citizens in order to increase and restore trust of citizens (Curtin & Mejier, 2006; Grimmelikhuisen, 2009).

Thereby, transparency as a fundamental value of democratic accountability is manifested over time through administrative reforms and new legislative procedures that not necessarily ensure a growing democratic legitimacy (Lodge, 1994). The rhetoric about transparency is a useful mode for mobilizing people and getting change going. Transparency may produce a counterproductive effect since policy makers strict procedures and avoid innovative solutions not bringing legitimacy when citizens have and perceive no trust in front of the institutions (Curtin & Meijer, 2006).

Transparency is one of the practical measures adopted to curtail corruption as deterrent against corrupt behavior by promoting vigilance of citizens and deterring public officials from attaining private gain in virtue of a bad management of public services. A lack of transparency makes corruption less risky and more attractive. Transparency can reduce political and public corruption by helping politicians and administrators to behave more accountable with public (Kolstad & Wiig, 2009). The perceptions of a not enough access to government seems to drive the demand of citizens for transparency. Thereby, people seeing government as closed institution or frequently contact government tend to demand more transparency (Piotrowski & Van Ryzin, 2005). National culture values may play a significant role in how citizens perceive and appreciate government transparency even if transparency does not improve the opinion of citizens on government in the short term at least (Grimmelikhuijsen & Porumbescu, 2013).

Internet technologies make public organizations as open, responsive institutions willing to serve the interest of citizens (La Porte, Demchak & Jong, 2002). Information and communication technologies (ICTs) have an enabling role in establishing transformational change in the public sector and tend to support public services, government administration, and enhance democratic processes providing a dynamic environment for ongoing learning and action (Dawes, 2008). The advent of new ICTs helps public organizations to transit in a new digital era in which the use of ICTs is a means to achieve better government following at least five directions (Lips, 2012): to provide a clear leadership; to support open and transparent government; to strengthen cross-government business capability; to improve operational ICT management. E-government as the use of information technology to enable and improve the efficiency with which government services are provided to citizens, employees, businesses and agencies, contributes to enhance the perception of responsiveness of public administration, to reinforce process-based trust by improving interaction with citizens (Tolbert & Mossberger, 2006). Thereby, e-government is not sufficient to generate trust of citizens in unresponsive government (Parent, Vandebeek & Gemino, 2004). Public organizations are assessed because of delivering the expected value for citizens (Cordella & Bonina, 2012). Public organizations should adopt and develop e-government initiatives in order to serve democratic principles of equity, impartiality and fairness emphasizing a greater responsiveness from public administration to citizens (Cordella, 2007). ICTs lead to a substantive social change in attitudes towards transparency by helping governments to ensure more efficiency and promote transparency and collaboration with public by enabling people to monitor government activities (Bertot, Jaeger & Grimes, 2011). Citizens expect that e-government should attend to issues of transparency and interactivity to engender trust. Internet technologies help governments to restore public trust and improve transparency by coping with corruption, inefficiency and ineffectiveness of services (Moon, 2002).

The role of training and education for 'forging' responsive public employees

Education and professional socialization can influence levels of public service motivation of employees feeling to contribute to the public goal (Moynihan & Pandey, 2007). Human resources practices help to improve and achieve high performances in public sector organizations (Gould-Williams, 2003). Reinventing government relies on investing in human resources and professionalism of public employees by sustaining education and training oriented to improve quality of public services for citizens and society (Crozier, 1988).
The changing of boundaries between public and private sectors has forged a new public service ethos consisting of both honesty, community service and competition, consumer choice (Brereton & Temple, 1999). Competences of personnel help to improve the responsiveness of public administration being positively related to citizen's satisfaction with public services. Citizens perceive public administration as more responsive and sensitive to their demands when believe that public policy is implemented coherently with clear ethical standards. These findings stimulate to better design and improve training systems for public administrators (Vigoda, 2000). Responsive administrators should be open, able and willing to respond, judicious and uncorrupted. Responsiveness implies a listening administrator as to promote democratic accountability and administrative effectiveness, by helping public servants to engage in reciprocal communication with the public (Strivers, 1994). Quality of personnel in terms of competences, motivation and commitment to goals and mission of public organizations constitute a strategic resource to develop a responsive public administration (Valotti, 2000). New public administrators should be trained in principles of public administration that provide the necessary foundation for growing administrative system (Moe & Gilmour, 1995). Training helps to develop successfully the human side of public management as sustainable approach in virtue of the concepts and instruments supported by an adequate administrative culture enriched by managerial values and attitudes of the official senior levels and public servants. New public managers should have a different style in terms of values, orientations and attitudes, being able to formulate strategic goals and programs, identify citizen needs and actively communicate, including politicians in the management process, advising political decision makers and motivating their staff and employees. It should be necessary to promote a network of new public management teachers through exchange of information about programs, their organization and success as first step for a common understanding about appropriate subjects areas (Reichard, 1998).

Sustainability of management education relies on involving students, educators, organization and societies willing to participate in interdisciplinary innovative and external communications (Starik, Markus & Clark, 2010). Initiatives enhancing a responsible management education should follow some principles (Stachowictz, 2011): generation of sustainable value for business and society; effective learning experience for responsible leadership; interacting in a partnership with scientists, business and local government for meeting social and environmental responsibilities and jointly facing these challenges; facilitating the debate and dialogue among government, civil society, business, interest groups and other stakeholders about the issues and questions regarding social responsibility and sustainability. Employee training and development should be part of a long-term learning strategy including reflection about the expansion of organization knowledge systems. Increasing the opportunities for employees training and development program should aliment a culture of sustainability coherently with knowledge enhancing and commitment (Haugh & Talwar, 2010).

Sustaining change driven by reform relies on investments in human capital to improve competencies, motivation and commitment of personnel as strategic resource in order to build an accountable and responsive public administration (Valotti, 2004; Quaglino & Rossi, 2007). Reinventing government implies to design needs and goals, methods and professional paths of education and training programs (Fontana, 1998). Training and education initiatives should lead personnel to assume new tasks learning new values and playing coherent behaviours and roles (Sinatra & De Martiis, 2004). Cultural, professional and social values tend to drive strategic and organizational change with a learning process by sustaining civil service personnel aware to actively contribute, to increase both motivation of personnel and effectiveness of public service delivery and (Rebora, 1988). Professional credentials indicate that public employees are willing to conform to certain expectations remaining grounded in the social processes of their respective professions (Thomas, 1998).

There are different approaches for designing training initiatives and improving professional contents of public employees (Borgonovi, 2004): *training as strategy of change for services delivery:* public administrations that select a clear strategic orientation in terms of services delivery tend to adopt programs of training and education in order to share competencies, knowledge, skills and behaviours to implement processes of innovation and improve the quality of service delivery. *Training as origin or stimulus for change:* training initiatives should be extended in helping to weaken old pattern of behaviour within public administrations where resistance to change is dominant and organizational inertia are pervasive of behaviours and mindset. *Training as response to specific needs and demands:* by introducing new decrees or act, the disenchantement and compliant of citizens for scarce quality of services lead to development of new knowledge, competencies and skills of personnel. Changing and increasing professional skills of public servant contribute to redesign work organization. *Training as driver for* diffusion of *innovation and creativity sharing* and cultural orientation in order to stimulate and foster the creativity of people.

Conclusions

Public organizations that serve the public interest should behave as open institutions in order to restore trust and engage citizens to participate in the decision-making process. Public organizations tend to enhance transparency as public value by sustaining education and training of public employees as strategic source to drive change within administrative culture making government accessible and open to citizens and reconcile public institutions with people. Building an open government could be interpreted as a merely legalistic and mandatory compliance driven by laws or deeply embedded within administrative culture where values of accessibility and openness lead behaviors of public employees and the relationship between public institutions and citizens. Public management reform leading to change demand investments on human capital as to improve professional competencies and education of public employees. Training and education may exert influence on ethics and behaviors of public servants as effective agents of change. Training and education initiatives should be focused more and more on principles and values coherent with the new public service rather than on merely management techniques. Training and education programs can be planned and oriented to employees learning values and principles coherent with new public service in the attempt to hybridize the administrative culture by breaking bureaucratic logics to promote transparency as value sustaining change of practices and behaviors. Training and education programs can be oriented to support the learning of management techniques to deal with technologies and procedures that are necessary for managing transparency as mere compliance.

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SUSTAINING PUBLIC HEALTH CARE ORGANIZATIONS: ACCREDITATION, LEGITIMACY AND PERSONNEL ASSESSMENT

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Abstract. *Processes of accreditation, as means for achieving organizational legitimacy, can affect human resource management and personnel assessment practices in healthcare organizations. Since 1990s public management reforms are leading healthcare organizations to behave as institutions client and outcome-oriented. Organizations tend to achieve greater legitimacy and better performance conforming to the expectations of the key stakeholders in their environment by enhancing credibility of their actions and pursuing active or passive support. Healthcare organizations tend to improve their survival chances being successful in obtaining legitimacy from normative sources as the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). Accreditation is a periodic external evaluation of a healthcare organization, by recognized experts, which furnishes evidence of the quality of care, treatments and services delivered to the individuals served by the firm. Processes of personnel assessment are considered directly related to the safety and the quality of the care, because its appropriateness should increase job satisfaction and commitment of employees, and guarantee their competences, indirectly reducing clinical errors and gaining in organizational effectiveness and efficiency. Processes of accreditation should help practices of personnel assessment to be specifically designed and implemented for a specific context and focused on personnel development and psychological safety rather than on control. This study is based on archival data, namely the content of the accreditation standards for healthcare organizations in relation to personnel assessment. In this paper we analyze the requirements of two widely used accreditation standards as the Joint Commission International (JCI) and the International Society for Quality in health Care (ISQua) related to performance assessment practices in health care.*

Keywords: *accreditation; legitimacy; health care; public organizations; personnel assessment.*

Introduction

The aim of this study is to describe and understand how accreditation processes, as means for achieving organizational legitimacy, can affect and can be influenced by personnel assessment practices in healthcare organizations.

Human resource (HR) management practices represent a fundamental issue of analysis and development in health care field, mainly those who concern effective team training, communication and relationships, appraisal criteria: these practices are likely to be an effective means to reduce human error in operating rooms, emergency departments, resuscitation units and other settings characterized by human interaction and activities interdependency, where breakdowns in communication and teamwork can have critical effects. Appraisal procedures significantly affect human resources' job satisfaction and commitment, considering the high evaluation and salary expectations that workers with high levels of responsibilities, such as health care professionals, have.

HR practices are also suggested as part of a Patient Safety Plan published by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), the regulatory agency charged with hospital accreditation in the United States. Training programs to acquire safety rules, communication, relational, and evaluation criteria to improve health care personnel competences are new concepts for medicine, particularly for physicians who are trained largely to be self sufficient and individually responsible for the care they deliver. While many parties acknowledge a need for such trainings, exactly how to go about developing such programs is a dark field, not illuminated by international accreditation standards of JCAHO and others institutions formally legitimated on the matter. They try to apply human resource practices guidelines of pilots and astronauts to medicine workers, because they all work under high levels of stress, but context is very important for any organizational practice and health care is an industry characterized by many contextual specificities.

Most health care organizations are characterized by complexity and specificities of public administration, so that they are affected by stronger forces that lead to institutionalization of practices and processes as myths to follow and comply to. Internationally legitimated accreditation standards are one of these institutionalization forces. In this paper we are specifically concerned with the impact of these institutionalization forces on personnel assessment HR practices.

Organizations tend to achieve greater legitimacy and better performance conforming to the expectations of the key stakeholders in their environment by enhancing credibility of their actions and pursuing active or passive support. Health care organizations tend to improve their survival chances being successful in obtaining legitimacy from normative sources as JCAHO. Organizations operating in highly institutionalized environments are more likely to survive to the extent that they are successful in obtaining legitimacy from those normative sources that are in a position to approve or disapprove their structures, staffing, and programs.

HR management literature on performance assessment is wide and complex. In this paper we read the accreditation standards developed in health care in the light of the human resources management literature. Are these standards evidence-based, and sufficient to guarantee quality of the care? Is there a risk of a one-size-fits-all formal approach, not corresponding with truly effectiveness?

Health care Public Organizations seeking legitimacy

Since 1990s public management reforms lead health care organizations to change structures and processes by following more and more a client and outcome-oriented approach. In Europe, for example, since 1990s four waves of management reform are identified (Toth, 2009): introducing competitive dynamics among producers and providers of health services and products within health care system; enforcing the coordination and integration between different actors governing and producing services for health care; acknowledging freedom of choice and rights to citizens for health care; orientation to health care systems decentralized on territory. Thereby, in relation to health care, the State should be seen as just a provider, funder, manager or regulator of health services but rather, could play a central role to manage the processes through which the meaning of the health system to society, and so its contribution to broader societal value, is established (Gilson, 2003).

Organizations tend to achieve greater legitimacy and better performance conforming to the expectations of the key stakeholders in their environment by enhancing credibility of their actions and pursuing active or passive support. Public organizations have to conform to the standards in order to achieve social and cultural appraisal, and obtain resources in order to survive. Legitimacy can be considered as central concept in the organizational study coherently with an institutional perspective (Deephouse & Suchman, 2008). Legitimacy as a cognitive process through which an entity becomes embedded in taken-for-granted assumptions implies that the actions of an entity are desirable, or appropriate within some socially constructed system of norms, values, beliefs, and definitions. Legitimacy can be embedded in organizations as constitutive belief or be managed so that the organizational goals can be achieved (Suchmann, 1995).

Public organizations need to gain legitimacy maintaining the organizational reputation as a set of beliefs about capacities, intentions and missions (Krause, Moynihan & Carpenter, 2012). Conceiving formalized organizational practices as rationalized myths can lead to the adoption of such practices as a quest for legitimacy rather than being considered as efforts to realize substantial changes in the organizational action (Meyer & Rowan, 1977). Health care organization facing complex challenges like the ongoing pressures for health care institutional reform, the emergence of new organizational governance structures, tend to conform to practices of similar organizations in order to maintain legitimacy in demanding environments (Yang, Fang & Huang, 2007).

Innovations that enhance legitimacy are desirable under conditions of uncertainty where the relationship between ends and means is no always clear. Innovations that regard to organizational structure may be of a symbolic nature coherently with a little effect on operations of the organization (Meyer & Rowan, 1977). Thereby, legitimacy as motivational force seems to explain the adoption of innovative behaviours by public organizations (Verhoest, Verschure & Bouckaert, 2007).

Quality, accreditation and legitimacy of health care organizations

Accreditation is a periodic external evaluation of a health care organization, by recognized experts, which furnishes evidence of the quality of care, treatments and services delivered to the individuals served by the firm. Accreditation procedures first require to the organization a detailed self-review of safety of the care delivery processes, to grant after a visible demonstration to stakeholders (patients, their families, staff and community) of organization's ongoing commitment to safe and high quality care, treatments and services. Health care organizations tend to improve their survival chances being successful in obtaining legitimacy from normative sources as accreditation bodies. Organizations operating in highly institutionalized environments are more likely to survive to the extent that they are successful in obtaining legitimacy from those normative sources that are in a position to approve or disapprove their structures, staffing, and programs. Organizations are not simply passive recipients in legitimation processes but work actively to influence and manipulate the normative assessments and feedback they receive from their multiple audiences (Ruef & Scott, 1998). The impact of regulatory programs can be understood as an example of coercive power in terms of pressures to comply with the dictates or policies of other organizations, particularly government agencies (Powell & DiMaggio, 1983). Accreditation could be seen as a source of economic gain and legitimacy health care organizations that are permitted to operate by receiving an accreditation award as form of legitimacy (Jaafaripooyan, Agrizzi, & Akbari-Haghighi, 2011). The growth of health care accreditation programmes accelerated globally in the 1980s and in Europe in the 1990s as regional and national strategies to improve the quality of health care. The earliest programmes were based on the North American models of the JCAHO (now expanded to cover health care organizations other than hospitals) and the Canadian Council on Hospital Accreditation. In the last decade within industrialized countries processes of accreditation were designed and implemented in order to promote and ensure a quality system with regard to different stakeholders as clients, health care providers and public administrations (Brusoni, 2002). The organizational accreditation model provides a framework for the convergence and integration of the strengths of all the models into a common health care quality evaluation model (Donhaue & van Ostenberg, 2000).

Today there is the wide diffusion of accreditation procedures and accreditation bodies. Accreditation can be considered as a rigorous external evaluation process that comprises self-assessment against a given set of standards, an on-site survey followed by a report with or without recommendations, and the award or refusal of accreditation status. Accreditation can be conceived as a process intended to improve quality and safety, as well established internationally. Accreditation consists of a formal declaration by a designated authority that an organization has met predetermined standards. The accreditation process is an effective leitmotiv for the introduction of change coherently with a learning cycle and curve. Institutions tend to invest greatly to conform to the first accreditation visit and reap the benefits in the next three accreditation cycles but find accreditation less challenging over time (Pomey et al., 2010). Accreditation is an issue leading health professional to endorse it or have a critical approach of accreditation programmes. Health service accreditation programmes are complex system-level interventions that aim to improve the quality and safety of patient care The accreditation process is considered to be an evaluation process carried out by independent professionals external to the health care organization and its governing bodies, focusing on its functioning and practices as a whole. It aims to ensure that conditions regarding the safety, quality of care and treatment of patients are taken into account by the health care organization.

Accreditation can be considered an influential mechanism for protecting society in terms of safeguarding access to quality and safe healthcare. The accreditation programs play a key role in monitoring the reflection of quality and excellence as healthcare values. Accreditation could be conceived as a steering mechanism in healthcare with its respective impact at the societal level. Accreditation has been defined as an external evaluation mechanism which assesses the performance of health care organizations by investigating their compliance with a series of pre-defined, explicitly written standards in the attempt to encourage continuous improvement of quality rather than simply maintaining minimal levels of performance. The effective impact of accreditation should be seen through its capacity to lead to sustainable improvements in patient care quality and safety (Jaafaripooyan, Agrizzi & Akbari-Haghighi, 2011). The use of accreditation implies some effects: making government more responsive in front of the public and citizens perspective heard in setting policy and standards for accreditation; meeting the increasing demand for public accountability of health care providers; decreasing health care costs (Schyve, 2000).

Data and methods

In order to understand the impact of accreditation practices on human resource management in health care we studied the requirements of two widely used accreditation standards, ISO 9001 Quality Management Systems and JCI Accreditation Standard for Ambulatory Care related to performance assessment practices in health care.

ISO 9001 Quality Management Systems is a standard developed by the International Organization for Standardization (ISO) to “provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer’s requirements, and that quality is consistently improved[1]”. It is not industry-specific. JCI Accreditation Standard for Ambulatory Care are developed by Joint Commission International (JCI) specifically for health care.

As most accreditation standards in health care, these two accreditation bodies set performance assessment and human resource development practices among their accreditation standards. We integrated the analysis of documents by these two organizations with qualitative interviews of a representative of a medical center in Italy that is accredited according to both standards.

Examples of how ISO 9001 standards related to Human Resources are “determine the necessary competence for personnel performing work” or “maintaining appropriate records of education, training, skills and experience.” Examples of how JCI standards related to Human Resources are “The competence to carry out job responsibilities is continually assessed, demonstrated, maintained and improved” or “[The] organization has an effective process for gathering, verifying, and evaluating the credentials (licensure, education, training, and experience) of those health care professional staff members who work under supervision and have job descriptions”.

[1] http://www.iso.org/iso/home/standards/management-standards/iso_9000.htm.

The authors, as scholars in organization studies, critically read and discuss the HR-related standards by ISO and JCI. Moreover, the quality assurance manager and the CEO of a group of medical centers accredited according to both ISO and JCI guidelines were interviewed.

Results and discussion: critical issues on accreditation standards

Quality movement's managerial ideas rest on a Plan-Do-Check-Act mindset and require that processes inspired by this mindset are documented and verified.

Quality culture is concerned with measurement and error reduction. This culture, together with the Plan-Do-Check-Act mindset, perfectly fits with the Weberian-style bureaucratic mindset (Weber, 1970) which is common among public administrations worldwide. On the other hand, being complex and professional organizations, health care organizations such hospitals or medical centers should be characterized by professional autonomy and professional development (Raelin, 1985). Therefore, the quality movement ideas and the Weberian bureaucracy may be theoretically incompatible with contemporary theory and evidence about the relationships among human resource practices and performance in professional organizations such as health care organizations.

Moreover both the quality movement and the bureaucratic functioning imply a focus on verifying processes compliance and results. This focus on has contribute to an intense institutionalization of practices. As it can be seen from the example of standards given above, standards are written to be very broad in order to be general guidelines which can be applied in different context. The broad wording and lack of details of standards creates uncertainty in how organizations willing to be accredited should implement the standards in order to obtain the accreditation certificate. This uncertainty, and the complexity that it brings, contributes to the institutionalization processes in the field. External experts of recognized accreditation institutions, as well as specialized consultants, assist health care organizations to modify their internal procedures, fill in application forms and schedules concerning measures of quality. In some countries, for example Italy, local government oblige by decree to adhere to accreditation procedures leading to the institutionalization and legitimacy-seeking isomorphism.

Joint Commission International Accreditation Standards for Ambulatory Care and UNI EN ISO 9001 Quality Management European System requirements point out the importance to verify and to document as health care structures the guarantee of patient safety and the presence, maintenance and improvement of job responsibilities.

Despite the good intention to regulate the sensitive field of health care, monitoring the safety of the physical environment of service delivery and at least one documented evaluation of responsibilities of each member of the staff, these rules often risk to become bureaucratic and shallows formalities to get the seal of quality and greater legitimacy by the stakeholders. They allow a broad field of action, because these rules specify general contents to test, but not specifically what instrument and schedules you have to adopt and to fill in: health care managers can take advantage of the generic international suggestions, in terms of speed and superficiality in the accomplishment of standards.

Moreover, according to more recent studies on efficacy and well-being of health care teams (Nembhard & Edmondson, 2006), it emerges the relevance to guarantee good leadership process oriented to inclusiveness, psychological safety, and improvement of group members, in reference to the high risk exposure of helping professionals to psychophysical stress and burnout, due to overloading and/or emotional burden of care, with negative indirect consequences on organizational performance and patient quality of care.

The antidote to the substantial deficiencies of so many formal international standards for accreditation could be represented precisely by testing soft skills of leaders and organizational climate in the working groups, through yearly questionnaires and interviews validated by academic literature to members staff, next to current regulations.

Many issues have to be verified to state the competence of health care professionals and, in particular, of leaders to facilitate communication within groups and with patients: the quality of care depends on the ability to create working environments in which to pool technical content and share emotional experiences. In particular, team leader behaviours affect team climate and learning orientation (Baker King, MacDonald & Horbar, 2003; Edmondson, 1999; Yukl, 1994): for example, nursing staff with authoritarian and inadequate managers generally show fear to reveal errors, in spite of nurses coordinated by effective leaders which stress the importance of using these information as a learning tool for the unit, encouraging human resources inclusiveness, psychological safety and development (Edmondson, 2003; Edmondson, 1996).

The organizational context is characterized by relationships among individuals and among their roles; in contexts characterized by high levels of interdependence between the activity and autonomy in carrying out the same, such as health care structures, high heterogeneity among workers' personality traits and role tensions must be hold by leaders able to create a climate of listening, psychological safety by permissive, protective and powerful attitudes (Berne, 1966).

Furthermore, also the effective communication is frequently personality and situation dependent (Leonard, Graham & Bonacum, 2004) and there is a lack of a common mental model and critical language. In terms of the effective circularity, communication may affect teamwork quality and safe patient care: receiving a message involves personal interpretation of the same, which varies depending on contingent factors (context, relationship quality, used channel) (Giannelli, 2006).

The complexity of medical care and human limitations make it critically to have shared communication tools and to create contexts in which individuals can speak up and express their opinions, enhancing teamwork and reducing risk of workers exposure to unsafe situations and inadvertent patient harm (Leonard, Graham & Bonacum, 2004). Crew Resource Management (CRM) systems and Sexton Safety Attitude Questionnaire (SAQ)[2] can represent two important tools to make truly effective the accomplishment of international accreditation standards, teaching people to express their concerns and state a problem politely and persistently waiting for an answer, before proposing action and reaching decisions, to improve assertion in the interest of patient safety (Bellamo, Goldsmith & Uchino, 2003).

Conclusions

Rules, guidelines and norms lead health care organizations to accept and be driven by institutional pressures in developing strategic and organizational choices to better perform task. Specificity and complexity of health care organizations because of the professional nature of work imply to pay more attention to practices and methods of human resource management and personnel assessment because of its importance for psychological safety and improvement of group members by helping professionals tend to have a higher risk of exposure to psychophysical stress and burnout, due to overloading and/or emotional burden of care, with negative indirect consequences on organizational performance and patient quality of care. Human resources play a critical role in determining the success of private and public organizations. HR function and practices pose specific problems because the competencies of personnel constitute an important organizational asset in knowledge intensive industries such as health care. Changes driven by rules and formal prescriptions take the risk to proceed coherently with a rhetorical than substantial approach. Designing the personnel assessment to comply with accreditation standards may be risky for professionals' wellbeing, professionals' learning and organizational performance, especially considering the generic and ambiguous characteristics of the most international regulations and the excess of autonomy given to local policy makers and healthcare organizations. For instance, in Italy national regulations simply identify in regional local government institutions the subjects that can independently define the criteria for accreditation of private entities at national health services: even if the intent of the administrative reform in Italy in 1990s by the introduction of the institute of accreditation was to give greater financial autonomy, effective management and organization to public and private actors of regional and national health care system, the accreditation risk to have

[2] www.qualityhealthcare.org

rebound effects in terms of organizational and human resource management efficacy, efficiency and equity, without international and national guidelines uniquely interpretable and adaptable to specific local health care (Frosini & Brusoni, 2002). Accreditation processes should drive policy makers and health care organizations to design specific practices of personnel assessment paying attention on personnel development and psychological safety rather than on control. The study is descriptive. The scope is only explorative. Future research perspectives should imply to better understand both the antecedents and the consequences of institutionalization of HR personnel assessment practices in health care through a research design based on more qualitative interviews in order to investigate how processes of accreditation are designed and implemented.

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TOWARDS SUSTAINABLE PARLIAMENTS

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Abstract. *Parliaments tend to enhance transparency and promote accountability in front of decline of public trust of citizens for democratic institutions by embracing new technologies for structuring an e-parliament, to perform more effectively their primary functions of lawmaking, representation, and oversight. Sustainability as principle of governance should be integrated in decision making processes driving behaviors of public organizations. The aim of this paper is to provide a framework of analysis to explain how parliaments are embracing new technologies for seeking legitimacy as more open and democratic representative institutions or sustainable institutions that develop sources of knowledge to build a participatory democracy in order o support public trust and improve dialogue between parliamentary institution and citizen.*

Keywords: *e-parliament; legitimacy; transparency; accountability; e-democracy; sustainability.*

Introduction. Parliaments as organizations oriented to sustainability

Parliaments as representative institutions of people dealings with other executives branches of government carry out distinctive functions: oversight, representation and lawmaking. Parliaments debate and define policy priorities, issue and enact laws, approve taxation and expenditures, oversee the executive branch of government, ratify treaties debating and approving constitutional changes (Beetham, 2006).

Parliaments that decide to challenge effectively the decisions taken by government compete with the executive authority in developing policy choices (Norton, 2012). Thereby, parliaments could not perform lawmaking and policymaking activities without assistance of an administrative and legislative staff providing support to the organization outside the operating work flow (Bontadini, 1983). There are different models of parliament and parliamentary support staff. Parliaments that select a decisional and proactive behavior on policymaking in front of the executive authority are supported by consulting and professional staff knowledge oriented. Parliaments that select a ratifying and follower behavior on policymaking are supported by a registration staff able to ensure merely support for transcript of debates and minutes. Mixed models of parliament and parliamentary staff can emerge and develop over time (Chimenti, 1981).

Sustainability as principle of governance should be integrated in decision making processes driving behaviors and action of public organizations (Fiorino, 2010), relying on fostering participation and developing models of democratic engagement (Geczi, 2007). Democratic parliaments as public organizations that contribute to democratic life by building and maintaining the level of public trust underlying democracy (Goodsell, 1994) have to rethink the approach to sustainability promoting accountability and engaging citizens by developing sources of knowledge for effectively contribute to policy formulation (Suurla, Markkula & Mustajarvi, 2002).

In front of deficit of representation, knowledge and competence, commitment and engagement (Burns, 1999) parliaments have to develop cognitive capabilities to deal with complexity, enforcing decision-making processes and developing parliamentary core functions that improve public participation and social learning of community (Mastropaolo & Verzichelli, 2006).

Today, democratic parliaments as forum of discussion and information, as institutions and places for negotiation and conciliation provide legitimacy to government and democratic political system (Pasquino & Pelizzo, 2006). Parliaments should act as meta-sovereign ensuring that governance processes operate according to general rules and procedures for public accountability decided by parliament to increase transparency and reinforce public trust. Parliaments as collective representative and authority in modern societies are coping with emerging trends of markets, technological and scientific complexity, organizations and interests' groups carrying on a significant part of business of politics and governance (Burns, 1999). In modern societies characterized by complex decision-making, the accountability is achieved by ensuring the openness of decision-making. Parliaments behave as mediators and referees in transition from the representative democracy (unable to solve uncertainty and complexity) with vertical lines of accountability and power to governance networks with more horizontal forms of accountability and power (Kljin & Skelcher, 2007).

Parliaments as responsive organizations should promote an active and democratic citizenship to serve the public interest as result of dialogue and collaboration with citizens as partners (Vigoda, 2002) based on a shared leadership and respect for people (Denhardt & Denhardt, 2003). Parliaments should promote transparent processes facilitating a two-way transfer of knowledge between public institution and stakeholders to better develop and implement sustainable policy (Riege & Linsday, 2006).

Parliaments as representative institutions of the diversity of people contribute to produce better laws and policies that serve the people (Beetham, 2006) as information intensive organizations and media infrastructure (Leston-Bandeira, 2007a, Mulder, 1999) and knowledge based organizations that use, disseminate and share knowledge related to social and environmental issues (Leon, 2013) by managing and creating knowledge policy making related by documents, laws, acts (Loukis, 2011). Parliaments tend to achieve and gain legitimacy (Krause, Moynihan & Carpenter, 2012) having the responsibility of sustaining the values of representative democracy (Griffith & Leston-Bandeira, 2012) by affirming its role as general voice of people (Burns, 1999).

Internet technologies making available documents and information about legislative processes help parliaments to promote citizenship, transparency and accountability in order to appear as responsive and sustainable representative institutions.

The aim of this paper is to provide a framework of analysis to elucidate that parliaments are embracing new technologies to behave as more open and democratic representative institutions seeking legitimacy or moving towards a sustainable development over time in order to restore trust of citizens.

This study is based on archival and qualitative data drawn by analysis and review of literature on the introduction of new technologies for connecting parliamentary institutions with citizens.

Parliaments seeking legitimacy in front of citizens through new technologies

ICTs help public organizations and government to re-connect with the public by increasing service efficiency and delivery, enhancing transparency and access to information, creating new opportunities of engagement and involvement of citizens (Gibson, Lusoli & Ward, 2008). Technology helps to increase transparency and improve processes of information and communication by linking different forms and mechanisms of democracy (Anttiroiko, 2003). Technology seems to be putting the democracy first (Denahrdt & Denhardt, 2003). Thereby, the success of electronic democracy relies on capacity to support and enable new forms of publicness within a public sphere (Tsagarousianou, 1998). Technologies help the development of democratic processes through obtaining information as requisite for engaging in deliberation, second phase desirable for participating in decision making (Tsagarousianou, 1999). Internet technologies making accessible data and information about parliamentary institutions and the legislative process lead citizens to exert influence on policy making (Grönlund, 2003) and participate activating their voice to parliamentarians (Missingham, 2001) as to contribute to new forms of policies sharing and participatory democracy (Kingham, 2003).

While parliamentarism increased considerably, parliaments as traditionally closed and far institutions are becoming the public face of distrust and disengagement of citizens embracing new technologies to appear more active in developing mechanisms of communication to engage citizens and contrast political apathy (Leston-Bandeira, 2012a). Parliaments as organizations managing uncertainty as fundamental problem (Fox & Hammond, 1977) tend to achieve greater legitimacy than better performance enhancing credibility of their actions (Meyer & Rowan, 1977, DiMaggio & Powell, 1983 Suchmann, 1995) by embracing new technologies to gain legitimacy maintaining the organizational reputation as a set of beliefs about capacities, intentions and missions (Krause, Moynihan & Carpenter, 2012).

ICTs help parliaments to maintain primacy and democratic legitimacy of the electoral chain of command in relation to some trends that tend to weaken the role of legislatures in western democracies: the control of representative institutions by political executives; the power of party discipline over representative institutions; the decision making is displaced into policy networks; the hollowing-out of the state (Raab & Bellamy, 2004).

Parliaments as institutions perceived as cause of disengagement of citizens with politics are strategically planning a public engagement agenda by embracing new technologies pursuing legitimacy as responsive and democratic institutions (Leston-Bandeira, 2014). Parliaments need legitimacy seeking the social support of citizens by developing information and communication flows with constituencies in order to legitimize policies (Hoff, Coleman, Filzmaier & Cardoso, 2004), strengthening the channels of engagement, networking and linkages (Lusoli, Ward & Gibson, 2006). Parliaments could serve as symbols of political integration among groups and networks and important sources of coherent policy in a 'mixed polity' that embraces parliamentary and post-parliamentary forms of governance (Raab & Bellamy, 2004). Parliaments are managing new technologies in order to uphold the values and ideas of representative democracy to survive as open and transparent institutions (Leston-Bandeira, 2007a), to legitimize policies, promoting citizenship and accountability, fostering greater engagement with citizens (Griffith & Leston-Bandeira, 2012), to ensure the legitimacy of parliamentary institution toward a participatory democracy (Smith & Gray, 1999, Smith & Webster, 2008, Smith & Webster, 2004, Raab & Bellamy, 2004), to engage citizens and sustain public trust (Lusoli, Ward & Gibson, 2006) as to be perceived as more efficient organizations in their internal workings (Kingham, 2003).

Building the e-parliament

Parliaments have to play a connective role between government and citizens embracing Internet technologies to make open the conduct of business for the people, involving civil society, helping citizens to understand the value of parliament as institution, providing services that enable citizens to be included in decision making processes (Papaloi & Gouscos, 2011).

Parliaments are embracing new technologies in order to build the e-parliament as an efficient organization where stakeholders use information and communication technologies (ICTs) to perform their primary functions of lawmaking, representation, and oversight more effectively (World parliamentary report, 2008). Designing the e-parliament implies to structure a legislature that is empowered to be more open, transparent and accountable through ICT encouraging people to be more engaged in public life by providing higher quality information and greater access to documents and activities of the legislative body. Parliaments are integrating new technologies of information and communication into their work to enhance and strengthen parliamentary functions (representative, legislative, scrutiny, oversight, legitimacy, education, conflict resolution) in terms of communication possibilities, dissemination and management of information (Leston-Bandeira, 2007a; Oppd, 2010; Undp, 2006) by enabling citizens to participate in the policy-making process, to view and discuss parliamentary records easily and permanently available as to develop an inclusive information society (World Parliamentary Report, 2008).

New technologies offer parliaments opportunities to modernize internal processes, increase levels of transparency, promote accountability, enhance engagement developing adequate resources to effectively use technology. New technologies and social media drive parliament to improve parliamentary language helping people to understand what legislatures do and their processes as to gather feedback and enhance the educative function about political processes to bridge the gap between representatives and people (Williamson & Fallon, 2011).

Parliaments embracing new technologies are perceived as more efficient and effective institutions that improve internal workings and processes, strengthening parliamentary democracy (e-parliament), providing better information to the public improving the interface between governments and citizens (e-government), ensuring the electorate to be better connected with institution allowing citizens to participate directly in the policy process (e-democracy) (Kingham, 2003). ICTs support knowledge management sharing information as significant resource for developing parliamentary basic functions (Suurla, Markkula & Mustajarvi, 2002). Moreover, technological modernization does not automatically make available new forms of democracy because of varying political context and dynamics in different countries (Zittel, 2004) influencing the future of parliamentary information infrastructure shaping e-democracy practices (Mulder, 1999). Parliaments adopt new technologies for modernization or reinvigoration coherently with role that ICTs may play in different models of democracy. Parliaments adopt new technologies in order to: improve citizen participation and involvement in decision making processes (deliberative or strong democracy) reinforcing representative institutions engaging people to participate in the political system (reinvigoration) using participation as a means for providing education and understanding about society; improve quality of information exchange government-citizens (liberal or thin democracy) and the image of representative institutions through websites for seeking legitimacy and consensus, and better performing of task (modernization and reform) (Ástrom, 2001; Päivärinta & Sæbø, 2006). Thereby, institutional and political differences in terms of nature and independence of legislature from the government exert influence on the means and extent to which parliaments provide citizens with information and documents (Griffith & Leston-Bandeira, 2012).

Parliaments promoting transparency and accountability through new technologies

Public institutions are increasingly considering the use of ICTs for public involvement as an emerging agenda in order to enhance transparency, openness, and legitimacy (Bingham, Nabatchi & O'Leary, 2005). Democratic parliament should be transparent organizations in the conduct of its business, accessible involving the public, accountable to the electorate for performance in office and integrity of conduct and effective in the organization of business in accordance with democratic values (Beetham, 2006). Thereby, the quality of democratic governance is enhanced by Internet technologies if citizens are better informed but not overloaded informed (Korac-Kakabadse, Korac-Kakabadse & Kouzmin, 2003). Parliaments as the public face of distrust are engaging citizens by embracing new technologies (Leston-Bandeira, 2012a) in order to cope with an increased disenchantment of citizens (Coleman, Taylor & Van De Donk, 1999) and permit to citizens to be consulted and involved in the policy process as result of dialogue and shared values (Coleman, 2009, Denhardt & Denhardt, 2001). Parliament have to select a political choice for improving and increasing ICTs policies coherently with values of transparency and accountability (Unpan, 2011). Accountability and transparency are factors driving parliamentary institution to re-build public trust in democratic institutions. New technologies are seen as a means to enhance transparency and overcome barriers to access information, to lead representatives to be more accountable with constituencies communicating their day-to-day work. Parliaments should use types of media that are popular for the public, matching the audience balancing with gravitas of the institution, collecting and disseminating information in formats easily readable and re.-usable (Williamson & Fallon, 2011). Public organizations can behave as transparent but not accountable institutions. Transparency does not automatically lead to accountability. While transparency implies dissemination and access to available information, the accountability requires the capacity to produce answers in terms of sanctions, compensation or remediation. Thereby, transparency and accountability can be conceived along a continuum in which the institutional answerability is the area of overlap whereas a clear transparency, that refers to information-access policies and lead to reliable information on institutional performance, is able to lead to a soft accountability (Fox, 2007). Democratic institutions have to behave as transparent organizations to function maintaining the relationship of confidence with citizens in order to increase and restore trust of citizens (Curtin & Meijer, 2006, Grimmelikhuijsen, 2009). New technologies lead parliaments perceived as distant institutions to develop and positively affect the symbolic relationship with citizens in their endless pursuing of trust (Leston-Bandeira, 2012b) sustaining public trust and improving transparency (Moon, 2002) because interactivity and increased transparency favor citizens' trust in democratic institutions (Welch & Hinnant, 2003). Information technology pressures are leading to increased public accountability coherently with national characteristics (Wong & Welch, 2004). Thereby, the Internet as means for ensuring policy discussion and evaluation from citizens seems to be still in its infancy (Pina, Torres & Royo, 2010). Internet technologies make public organizations as open, responsive institutions willing to serve the interest of citizens (La Porte, Demchak & Jong, 2002). Parliaments, traditionally regarded as closed institutions, have to connect more directly citizens as listening and learning institutions developing a meaningful interaction (Coleman & Spiller, 2003). New technologies help parliaments to increase accountability and openness enhancing parliamentary democracy (Smith & Webster, 2008) and to realize the value of transparency, openness, accessibility and accountability by making available for citizens document and information about legislative process and policymaking activities (Leston-Bandeira, 2007b).

Parliaments as governmental institution use transparency in order to increase and restore the trust of citizens within institutions (Grimelikuijsen, 2009) by embracing Internet technologies to emphasize the value of transparency as a myth in order to strengthen social legitimacy of the institutions (Curtin & Meijer, 2006). Parliaments should ensure two aspects of transparency: document transparency implies the possibility that parliamentary documents for political decisions are examined; meeting transparency implies the following on line real-time proceeding of meetings of political bodies and webcast archive (Berntzen et al., 2006).

Parliaments tend to increase greater openness and legislative by the visualization of parliamentary information about legislative processes in the attempt to empower citizens encourage participation too (Papaloi & Gouscos, 2013). ICTs permit to parliament to increase transparency improving the knowledge and information about decision-making towards an accountable relationship with citizens (Meijer, 2003) facilitate processes of information access and communication (Lusoli, Ward & Gibson, 2006) encouraging both positive and negative feedback, and public participation in policy formulation (Taylor & Burt, 1999; Missingham, 2001).

Connecting with citizens: the role of websites between lights and shadows

The publicity of political decision making is a central element of representative democracies. Websites are considered the main vehicle through which citizens gather and obtain data and information to monitor governmental activities (World parliamentary report, 2012) making available a growing amount of information about legislative process. The Inter-Parliamentary Union (2009) providing guidelines for structuring parliamentary is leading parliaments to promote a culture of openness, transparency and accountability through design and implementation of their websites as the primary means for making their work known to citizens in order to appear as a genuine and accountable voice in front of the executive authority.

Parliamentary websites tend to ensure a more open institution providing the most current reports of committee actions and plenary debates, and offer facilities for citizens to contact the parliament directly to request information or ask questions, and permit to the decision-making to be more publicly visible. Parliamentary websites as an important tool for the parliament to 'market' itself to the citizen (Dai & Norton, 2007) contribute to the levels of political knowledge among citizens that may relatively easily receive information on procedures, current legislative activity, and administrative acts increasing the chances of ex ante and ex post public scrutiny of legislatures, providing the citizens with detailed information on parliamentary work at a relatively low cost (Setälä & Grönlund, 2006).

Parliamentary websites as positively judged only in few cases should be improved in terms of transparency and accountability (Griffith & Leston-Bandeira, 2012). Parliamentary websites seem not to open to participation and effectively involve the citizens as a partner to be engaged into the legislative and policy processes (Sobaci, 2010) despite of participatory and democratic potential of the Internet (Taylor & Burt, 1999). Websites seem to provide access to data and information rather than expand possibilities of consultation and participation (Joshi & Rosenfield, 2013) and often fail in providing a viable channel of communication between parliamentarians and citizens (Kindra, Stapenhurst & Pelizzo, 2013) emphasizing the classical role of parliament as liberal representative institution (Norris, 2000), taking the risk to play a rhetoric role and fulfill an administrative function of merely representing people rather than searching a dialogue or understanding and taking demands of voters (Ward & Lusoli 2005). Websites focus on parliamentary output rather than parliamentary and political actors but often there is no match between what parliaments do and what websites show so that the function of enhancing parliamentary democracy is weakened (Leston-Bandeira, 2009).

Encouraging citizen participation: positive aspects and some constraints

Internet Technologies leading to an accessible and decentralized democratic representative system (Zittel, 2003) enhance the quality of democratic governance making available for citizens a growing amount of information about legislative process and providing a means of seeking the views of constituents on public policy.

New technologies help parliaments to develop a trustee model of representation to reconcile with the electorate (Leston-Bandeira, 2012c). Contribution of citizens in political decision-making processes rely on models of democratic engagement and require to embed participation in the organizational and cultural infrastructures of modern governance systems legitimizing a decision making process that is efficient and productive of social value over time (Luhers & Molinari, 2010). Thereby, parliaments as public institutions behave as hesitant institutions towards communicating with citizens online being mainly interested in one-way information provision to citizens and not so much in citizens' feedback about legislation or policies design and implementation alternatives (Östling, 2011). Thereby, there is a lack of research combining stakeholders with methods, tools and environment, integrating both different disciplinary contributions (Susha & Grönlund, 2012) and taking account of social, political and technical perspectives (Macintosh & Smith, 2002).

E-democracy can employ different techniques for increasing the transparency of the political process, for enhancing the direct involvement and participation of citizens by improving the quality of opinion formation and opening new spaces of information and deliberation (Trechsel et al., 2003). ICT tools can be implemented to change or reinforce parliamentary institutions governed by path depth processes, support more participatory forms of citizenship and facilitate a two way dialogue reinforcing participatory forms of citizenship and public involvement based on a two way dialogue (Pratchett, 2007). Thereby, e-petitions as a response to declining trust of citizen help to sustain legitimacy of parliamentary institutions and enhance the relationship between parliaments and citizens even if it is too early to evaluate (Bochel, 2013; Hough, 2012).

The use of social media seems to be still in its infancy. Parliaments are timid in the adoption of social media for providing more information about parliamentary business than sustaining engagement and participation of citizens as to lead people to better understand role, functions and characteristics of parliamentary institutions (Leston-Bandeira & Bender, 2013). Thereby, parliamentary actors are no sure of how to cope with democratic potential of ICTs and reconnect people with their representatives and use the input received as to summarize ideas and suggestion that emerge in the electronic dialogue (Francoli, 2008). Parliaments should enhance engagement of citizens communicating how the institution works, showing how the feedback and inputs by the public are considered by legislature (Williamson & Fallon, 2011). New technologies help representative institutions to design and implement e-democracy initiatives ranging from one to two-way access of information to developing a two-way dialogue with citizens for engendering a meaningful dialogue (Coleman & Spiller, 2003; Marcella, Baxter & Moore, 2002) in order to gather, manage and understand the feedback of citizens (Papaloi, Ravekka Staiou & Gouscos, 2012; Papaloi, 2011). Thereby, ICTs help to introduce change or reproduce social structures (Parvez & Ahmed 2006), becoming a rhetorical tool for politicians that may oppose a civic engagement that could obscure traditional political representation (Maherer & Krimmer, 2005).

Discussion and conclusions

Parliaments as intensive information and knowledge-based organizations should use technology as a means to redesign internal processes, increase transparency and behave as accountable institutions encouraging citizens to be included in decision making processes. A framework of analysis is proposed to explain how parliaments select a different path embracing new internet technologies of information and communication for modernization or reinvigoration of processes along a *continuum*: from connecting with citizens to make available information and communicate with citizens to engaging people fostering participation in policy making; from ensuring transparency to promoting accountability (figure 1).

	connecting with citizens	encouraging citizen participation
ensuring transparency	Open Parliaments	Parliaments seeking legitimacy
promoting accountability	Democratic Parliaments	Sustainable Parliaments

Figure 1. Parliaments towards a sustainable development: a framework of analysis

The design of parliamentary e-participation is still in infancy. While parliaments as open institutions tend to ensure transparency connecting with citizens, democratic parliaments activate channels of communication for building an accountable relationship with citizens following a responsive approach to relationship between State and citizens. Parliaments seeking legitimacy as representative institutions tend to bridge mediate and direct forms of democracy and increase transparency by encouraging citizen participation to build consensus on representative role of the institution without effectively involving citizens in policy-making based on dialogue and consensus. Sustainable parliaments tend to play a proactive role on policymaking in a deliberative democracy by promoting accountability and engaging citizens to build better policy solutions supported by citizens.

New technologies lead to organizational and professional re-design of parliamentary staff (Leston-Bandeira, 2007a; Mulder, 1999; Oppd, 2010). Parliaments playing a decisional role and having at disposal consulting and professional staff tend to redesign core functions and processes by introducing new technologies and developing a knowledge approach to encourage citizens to have access to information for sharing knowledge and building a sustainable policy process. Parliaments merely modernizing internal processes by new technologies offer openness and accessibility to documents and acts improving transparency without making citizens as partner for policy building.

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EFFECTIVENESS OF ALLOCATION OF HEALTH SYSTEM NON-FINANCIAL RESOURCES

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Abstract. *The aim of this study is the analysis of the efficiency of regional distribution of non-financial resources' in Polish health care system. We have assumed, that the redistribution of financial resources is of secondary character, because the existence of human and fixed resources determines the potential to provide services and affect the distribution of funds among the regions. We have used the least squares method, the weighted least squares method and selected measures of model' fitting, like Akaike Information Criterion, Hannan-Quinn Criterion, Schwarz'Bayes-Criterion. The results of empirical studies indicate, that there is a significant relationship between health resources and women's state of health, at the age of 45 and 60 years, and only some of the benefits have a strong impact on the population's health. Cross-sectional data for women at the age of 60, analysed in the period of 2009-2013 show, that women in some voivodeships live shorter or longer than, on average, in the other voivodeships, comparing to the same volume of resources.*

Keywords: *health; non-financial resources; health state.*

Introduction

Functioning of the health system has enormous importance for the well-being of a society and its economic development. Health needs are, due to their nature, varied and require a wide range of resources, including human, financial and infrastructural ones (Asante, Zwi & Ho, 2006). Health resources in every country are limited and the treatment options are infinite, which means the need for tough decisions on allocation of scarce resources (Sweatman & Woollard, 2002). Analysis of health care resources is generally based on three dimensions: restraint of resources, inequity of distribution and inefficiency of resource-use (Saxena et al., 2007). The main purpose of each resource allocation model is to maximize the health of the population (Flessa, 2003), (Emanuel, 2000). Inappropriate resource allocation can lead to inequalities in health (Asante, Zwi & Ho, 2006), that can have also a regional dimension.

Resources are allocated efficiently, if its redistribution meets the needs of local communities. If the allocation is ineffective more people do not have sufficient access to health benefits (Saxena et al., 2007), without regional disparities (Kreng & Yang, 2011). If resources are allocated equitably, it should be reflected in health outcomes (Rice & Smith, 1999).Literature suggests a variety of measures of health status, also known as health outcomes. They include: life expectancy (LE), healthy life years (HLY), potential years life lost (PYLL), quality adjusted life years (QALY) (Ryć & Skrzypczak, 2011). Many studies also use negative indicators, such as morbidity and mortality. All-cause mortality is among the most commonly used health status indicators, especially in studies concerning health inequality (Starfield et al., 2005).

Traditional health needs-based allocation mechanisms assume, that regions with greater health needs get more resources (Mooney & Houston, 2004, Donaldson & Gerard, 1993, Asthana et al., 2004, Asante & Zwi, 2009). Diagnosed health needs often are analysed in relation to the socio-economic factors, characterising local communities (Bellanger & Jourdain, 2004).

Research on allocative efficiency are linked to the availability of public health care services. In the case of primary care services, financed from the public health insurance, services are generally available, according to Włodarczyk (2007), and this availability is not dependent on residence in the voivodeship, while the availability of more specialised services depends on the place of residence and wealth.

The aim of this study is to analyse the efficiency of the regional non-financial distribution of resources in Polish health care system. We have assumed, that the redistribution of financial resources is of secondary character, because the existence of human and fixed resources determines the potential to provide services and affects the distribution of funds between the regions.

We have posed the following research hypotheses:
H1:non-financial resources affect significantly women's state of health;
H2: non-financial health resources are redistributed inefficiently.

The H1 hypothesis assumes, that there is a significant relationship between health resources and women's health at the age between 45 and 60. Confirmation of the H1 hypothesis leads not only to existence of such a connection, but may also indicate health benefits, which have the strongest impact on the health status of the population.

The construction of the H2 hypothesis bases between regional distribution of non-financial resources and selected health indicators. This hypothesis assumes, that the inequality in the distribution of resources between regions potentially generate health inequalities reflected in the health indicators. In Poland, self-government entities, particularly at the regional level, are committed to formulation of a local development strategy, which also includes the aspect of health (Fyderek, 2007). Voivideship – as a local government unit - creates, among other things, coverage plans for health benefits, ensuring health services for the voivodeship's population. This also applies to the geographical distribution of health infrastructure.

Many studies confirmed the relationship between the number, or density of doctors and mortality rates and life expectancies, even if income inequalities occurred (Horev, Pesis-Katz & Mukamel, 2004; Anand & Bärnighausen, 2004; Chen et al., 2004) and between fixed health resources (e.g., the number of hospital beds) and consumption of health benefits (Litaker & Love, 2005).

This survey covers the geographical distribution of health resources. It is important, however, that gender and social position (income, education) are relevant health factors of the health status. In fact, voivodeship populations show a diversity in terms of education and income, not only between voivodeships, but also between women and men. Inequalities in the morbidity of men and women may be associated with the fact, that women serve different social functions and use more extensively social support, including health benefits. According to previous research, women aged 45, are more likely than men to use healthcare resources.

We have used data covering the regional distribution of infrastructure and human resources from The Centre of Health Information Systems (CSIOZ) and data from The Main Statistical Office (GUS) for the years 2009-2013.

The presented study differs from prior literature in several aspects. First, we have examined empirically the impact of non-financial resources on the population's health status, which provides an important contribution to the current research. What is important, this study concentrates on the population of elderly women, who have often much worse access to health care services.

Methodology and data

The research concept is based on the study of the relationship between non-financial health resources and the population's health state, assuming that this is a consequence of the existing resources. The data have been analysed in the territory division, corresponding to the level of the NTS2 (Nomenclature of Territorial Units for Statistics). In the case of Poland, it implies the analysis for the 16 voivodeships.

The dependent variable is life expectancy for women aged 45 (LEF_45) and 60 (LEF_60). Life expectancy is one of the basic measures of population health status' improvement. It allows the analysis of the health status' diversification between the sexes, depending on place of residence. Life expectancy for a newborn baby is largely affected by perinatal mortality (inter alia caused by malformations and genetic disorders), which significantly impairs total life expectancy. We have assumed, that the state of health of the elderly, which is expressed by LE45, to a large extent influences the availability or access to health services.

We selected a number of potential explanatory variables, related to the existing human resources and health infrastructure (Table 1). The analysis was made for the 2009 to 2013 data. The data on infrastructure and human resources have been transformed into relative values - in relation to the population of a voivodeship.

Table 1. Potential explanatory variables (based on CSIOZ data)

Variable	Definition
Doctors in hospitals(DOC)	The number of doctors in hospitals, regardless of the form of employment
Specialists (DOC_SPEC)	Specialists, regardless of the form of employment, working in hospitals and outpatient specialist care
Nurses (NURS)	Nurses working in hospitals, regardless of the form of employment
Midwives(MIDS)	Midwives working in hospitals, regardless of the form of employment
Primary care doctors (GP_DOC)	Doctors in primary health care, regardless of the form of employment
Primary care nurses (GP_NURS)	Nurses working in primary health care, regardless of the form of employment
Hospital beds (BEDS)	Overall number of hospital's beds
Operation rooms (O_ROOM)	Overall number of operating rooms in hospitals
Echocardiography (ECHO)	The number of echocardiography's machines
X-ray diagnostics (XRAY)	The number of X-ray machines
Ultrasonography (USG)	The number of ultrasound's machines
Electromyography (ELMIO)	The number of electromyography's machines
Isotope Diagnostics (PET)	The number of Positron Emission Tomography's machines
Computer tomography (CTG)	The number of computer tomography's machines
Magnetic resonance imaging (MAG_RES)	The number of magnetic resonance imaging's machines

We analysed several explanatory variables: LE for women aged 45 and 60, respectively for the years 2009 and 2013. We started our analysis with the presentation of changes in non-financial resources between 2009 and 2013. Then, we estimated the econometric models, basing on the Classic Method of Least Squares. We also applied the weighted least-squares method and model fit measures, such as: Akaike Information Criterion, Hannan-Quinn Criterion, Schwarz'Bayes-Criterion. The analysis was carried out with the use of Statistica 10 software.

Results and discussion

In Poland, there have been changes in terms of the number of hospitals and the number of hospital's beds. Earlier, hospitals were, generally, larger, and had more beds. After the reform of the healthcare system, hospitals are much smaller and the number of beds was declining systematically during the period 2000-2005 (Sowa, 2007).

The analysis of changes in human resources for primary health care has shown considerable variation in the number of doctors and nurses in voivodeships. Besides, the direction of changes in the years 2009-2013, was not homogeneous, in some of the voivodeships human resources decreased, but increased in others (Table 2).

Table 2. Changes in primary care human resources in voivodeships, 2009-2013, per 10.000 of residents (based on CSIOZ data)

Voivodeship	GP_DOC (2009)	GP_DOC (2013)	2009=100	GP_NURS (2009)	GP_NURS (2013)	2009=100
Dolnośląskie	6,97	7,75	111,19	7,64	7,93	103,80
Kujawsko-Pomorskie	8,25	8,91	108,00	9,62	9,45	98,23
Lubelskie	7,22	17,33	240,03	9,76	20,77	212,81
Lubuskie	5,69	2,76	48,51	8,64	3,68	42,59
Łódzkie	9,19	10,01	108,92	9,63	10,05	104,36
Małopolskie	7,35	8,16	111,02	10,31	10,49	101,75
Mazowieckie	8,64	6,76	78,24	10,95	6,95	63,47
Opolskie	6,04	5,53	91,56	11,3	9,21	81,50
Podkarpackie	6,15	6,72	109,27	10,62	10,49	98,78
Podlaskie	6,83	7,36	107,76	9,42	9,29	98,62
Pomorskie	6,15	6,84	111,22	7,48	7,13	95,32
Śląskie	8,16	8,86	108,58	10,84	9,68	89,30
Świętokrzyskie	7,5	8,61	114,80	10,69	11,42	106,83
Warmińsko-Mazurskie	5,92	5,72	96,62	8,11	7,82	96,42
Wielkopolskie	2,21	8,61	389,59	3,44	4,53	131,69
Zachodniopomorskie	5,55	5,28	95,14	8,61	6,95	80,72

In the case of inpatient care resources an increase in the total number of physicians and nurses in almost all provinces was observed. On the other hand, the number of specialists decreased in all regions (Table 3).

Table 3. Changes in hospital resources in voivodeships, 2009-2013, per 10.000 of residents (based on CSIOZ data)

Voivodeship	DOC (2009)	DOC (2013)	2009 =100	DOC _SPEC (2009)	DOC _SPEC (2013)	2009 =100	NURS (2009)	NURS (2013)	2009 =100
Dolnośląskie	16,23	21,65	133,39	16,42	15,33	93,36	32,43	34,65	106,85
Kujawsko-Pomorskie	15,13	18,53	122,47	15,3	13,03	85,16	29,53	32,71	110,77
Lubelskie	41,41	43,67	105,46	19,61	32,96	168,08	36,74	78,33	213,20
Lubuskie	5,70	7,42	130,18	12,16	5,67	46,63	27,28	14,22	52,13
Łódzkie	21,05	25,96	123,33	20,81	18,52	89,00	34,19	36,39	106,43
Małopolskie	17,19	19,95	116,06	17,51	14	79,95	32,14	33,25	103,45
Mazowieckie	21,08	26,26	124,57	21,46	19,58	91,24	33,6	37,56	111,79
Opolskie	12,41	14,52	117,00	12,08	10,87	89,98	27,06	29,13	107,65
Podkarpackie	12,00	15,21	126,75	12,16	12,53	103,04	31,97	34,59	108,20
Podlaskie	19,96	22,97	115,08	20,05	17,41	86,83	36,32	34,74	95,65
Pomorskie	16,68	20,21	121,16	17,17	14,19	82,64	28,42	30,11	105,95

Śląskie	19,19	23,12	120,48	19,02	17,88	94,01	36,47	37,83	103,73
Świętokrzyskie	14,61	17,39	119,03	14,59	13,59	93,15	33,74	34,17	101,27
Warmińsko-Mazurskie	13,40	16,23	121,12	13,59	12,34	90,80	27,88	29,72	106,60
Wielkopolskie	16,12	13,57	84,18	16,4	9,23	56,28	30,46	30,2	99,15
Zachodniopomorskie	14,66	19,94	136,02	14,88	13,61	91,47	28,6	31,5	110,14

Distribution of medical equipment is also very patchy, but certain changes can be observed – in every voivodeship the number of medical equipment (per 10.000 population) improved (Table 4).

The number of beds requires broader analysis. During the analysed period the number of beds in some voivodeships increased, while in other – it decreased, but still some variation in the number of beds could be observed (Table 4). What is important, in some voivodeships the relative number of hospital beds grew during analysed period, and in others – dropped and it is difficult to find any pattern in these changes.

Table 4. Changes in infrastructural resources in voivodeships, 2009-2013, per 10.000 of residents (based on CSIOZ data and Main Statistics Office data)

Voivodeship	**BEDS (2009)**	**BEDS (2013)**	**2009 =100**	**ECHO (2009)**	**ECHO (2013)**	**2009 =100**	**O_ROOM (2009)**	**O_ROOM (2013)**	**2009 =100**
Dolnośląskie	48,34	50,74	104,96	0,19	0,24	126,32	0,8	2,4	300,00
Kujawsko-Pomorskie	43,68	45,55	104,28	0,27	0,31	114,81	0,8	2,6	325,00
Lubelskie	53,2	52,20	204,81	0,26	0,56	215,38	0,9	6,9	766,67
Lubuskie	43,14	40,62	47,80	0,22	0,10	45,45	0,8	1,5	187,50
Łódzkie	53,6	52,64	98,21	0,31	0,32	103,23	0,9	3,1	344,44
Małopolskie	43,62	43,60	99,95	0,25	0,30	120,00	0,8	2,4	300,00
Mazowieckie	46,17	48,00	103,96	0,25	0,28	112,00	0,8	2,3	287,50
Opolskie	43,17	45,50	105,40	0,26	0,26	100,00	0,6	2,1	350,00
Podkarpackie	46,23	47,18	102,05	0,28	0,25	89,29	0,7	2,3	328,57
Podlaskie	52,36	47,14	90,03	0,25	0,28	112,00	0,9	2,1	233,33
Pomorskie	39,8	40,07	100,68	0,28	0,3	107,14	0,7	2,7	385,71
Śląskie	57,37	56,09	97,77	0,36	0,35	97,22	0,8	2,7	337,50
Świętokrzyskie	49,7	49,66	99,92	0,27	0,28	103,70	0,8	1,6	200,00
Warmińsko-Mazurskie	42,44	42,67	100,54	0,25	0,25	100,00	0,6	2,0	333,33
Wielkopolskie	46,72	40,93	87,61	0,21	0,25	119,05	0,7	1,9	271,43
Zachodniopomorskie	46,96	47,63	101,43	0,27	0,35	129,63	0,8	2,0	250,00

During the main part of this research we estimated several econometric models, which allowed us to indicate resources that affect further lifespan to a greater extent. In order to confirm the H1 hypothesis, we tested four models, assuming, that the explanatory variable is women's life expectancy at the age of 45 and 60 years. In each model statistically irrelevant variables were removed. The determination coefficients for constructed models ranged from 83,34% to 91,37%, which meant a very good fit.

Model 1

In the first model, the dependent variable was the average LE of women 45 years of age. The model indicated that the number of primary care nurses and the diagnostic equipment (the number of echocardiograph and MMR) explained the state of health of women aged 45 years in 83,34%, whereas the other 16,66% were other factors not included in the model (Table 5 and 6).

Table 5. The estimation results – dependent variable (Yi): LEF$_{2009}$_45

Variable	Coefficient	Standard error	t-Student test	p-value
const	34,9583	0,891675	39,2052	<0,0001 ***
GP_NURS	4,41882	0,615759	7,1762	<0,0001 ***
ECHO	52,8581	27,9225	1,8930	0,0849 *
MAG_RES	2,74414	0,424455	6,4651	<0,0001 ***
* significance level α = 0.1, ** significance level α = 0.05 *** significance level α = 0.01				

Table 6. Measure of the model fitting

Average value of dependent variable	**36,44938**	**Standard deviation of the dependent variable**	**0,660782**
Residual sum of squares	1,091373	Final prediction error	0,314985
Coefficient of determination R-squared	0,833365	Adjusted R-squared	0,772771
F(6, 9)	13,75316	p value for test F	0,000293
Credible interval	1,221801	Akaike Information Criterion	12,44360
Schwarz'Bayes- Criterion	16,30655	Hannan-Quinn Criterion	12,64142

Test for normality of residuals –
Null hypothesis: the random component has a normal distribution.
The test statistics: Chi-square (2) = 4,69575, p-value = 0,0955718.

Model 2

In Model 2, the dependent variable is the average LE for women aged 60, in 2009 (LEF$_{2009}$_60). The model 2, indicates that the state of health of women, at the age of 60, is explained in 89,51% by six variables– the number of primary care nurses, the number of hospital beds, the number of operating rooms and the number of diagnostic equipment (echocardiographs, PETs, MRIs), and the remaining 10,49% are other factors not included in the model (Table 7 and 8).

Results show, that non-financial resources affect women's health, and the observed impact of such resources as hospital beds, PET or the number operating rooms, increases with age.

Table 7. The estimation results – dependent variable (Y_i): LEF$_{2009}$_60

Variable	Coefficient	Standard error	t-Student test	p-value
const	20,9127	0,724026	28,8840	<0,0001 ***
GP_NURS	3,18556	0,395676	8,0509	<0,0001 ***
BEDS	2,25327	0,296709	7,5942	<0,0001 ***
ECHO	62,1487	19,1527	3,2449	0,0101 **
PET	271,524	147,928	1,8355	0,0996 *
MAG_RES	556,309	91,5339	6,0776	0,0002 ***
O_ROOM	26,122	9,65624	2,7052	0,0242 **
* significance level α = 0.1, ** significance level α = 0.05 *** significance level α = 0.01				

Table 8. Measure of the model fitting

Average value of dependent variable	**23,17938**	***Standard deviation of the dependent variable***	**0,483494**
Residual sum of squares	0,367994	Final prediction error	0,202208
Coefficient of determination R-squared	0,895053	*Adjusted R-squared*	0,825089
F(6, 9)	12,79299	p value for test F	0,000587
Credible interval	7,475192	Akaike Information Criterion	0,950384
Schwarz'Bayes- Criterion	4,457737	Hannan-Quinn Criterion	0,673444

Test for normality of residuals –
Null hypothesis: the random component has a normal distribution.
The test's statistics: Chi-square (2) = 0,252594, p-value = 0,881353.

Model 3

In Model 3, the dependent variable is the average LE for women aged 45, in 2013 (LEF_{2013}_45). The coefficient of determination, R2 of approximately 93,40%, shows, that the model explain women's health state using the seven variables -human resources: the number of primary care doctors and nurses in hospitals and primary health care, the number of medical specialists in hospitals, and infrastructure: the number of beds and operating rooms in hospitals and the number of CTs. The remaining 6.6% of volatility must be explained by others factors not included in the model (Table 9 and 10).

Table 9. The estimation's results – dependent variable(Y_i): LEF_{2013}_45

Variable	Coefficient	Standard error	t-Student test	p-value
const	36,2939	0,215671	168,2838	<0,0001***
GP_DOC	2,52329	0,561547	4,4935	0,0020***
NURSE	1,74942	0,418721	4,1780	0,0031***
DOC_SPEC	0,96619	0,380887	2,5367	0,0349**
GP_NURS	4,3818	0,570284	7,6835	<0,0001***
BEDS	1,98677	0,261035	7,6111	<0,0001***
CTG	161,129	56,0374	2,8754	0,0207**
O_ROOM	4,59701	1,44985	3,1707	0,0132**
* significance level α = 0.1, ** significance level α = 0.05 *** significance level α = 0.01				

Table 10. Measure of the model' fitting

Average value of dependent variable	**37,20313**	***Standard deviation of the dependent variable***	**0,671364**
Residual sum of squares	0,445958	Final prediction error	0,236103
Coefficient of determination R-squared	0,934039	*Adjusted R-squared*	0,876323
F (6, 9)	16,18343	p value for test F	0,000388
Credible interval	5,937941	Akaike Information Criterion	4,124119
Schwarz'Bayes- Criterion	10,30483	Hannan-Quinn Criterion	4,440622

Test for normality of residuals –
Null hypothesis: the random component has a normal distribution.
The test statistics: Chi-square (2) = 1,35256, p-value = 0,508505.

Model 4

In Model 4 the explanatory variable is the average LE of women aged 60, in 2013 (LEF_{2013}_60). The determination coefficient (R^2) shows, that the model explains 89.68% of volatility, using six explanatory variables – the number of primary care doctors and nurses, the number of hospital's nurses, the number of hospital beds, CTs and operating rooms). The other 6.6% are other factors not included in the model (Table 11 and 12).

Table 11. The estimation's results – dependent variable(Y_i): LEF_{2013}_60

Variable	Coefficient	Standard error	t-Student test	p-value
const	23,1886	0,186931	124,0488	<0,0001***
GP_DOC	1,72431	0,476583	3,6181	0,0056***
NURSE	1,37061	0,360472	3,8023	0,0042***
GP_NURS	2,74045	0,380582	7,2007	<0,0001***
BEDS	1,48233	0,225272	6,5802	0,0001***
CTG	81,8991	42,5386	1,9253	0,0863*
O_ROOM	3,1067	1,25902	2,4676	0,0357**
* significance level α = 0.1, ** significance level α = 0.05 *** significance level α = 0.01				

Table 12. Measure of the model' fitting

Average value of dependent variable	**23,75688**	***Standard deviation of the dependent variable***	**0,501899**
Residual sum of squares	0,390070	Final prediction error	0,208185
Coefficient of determination R-squared	0,896767	*Adjusted R-squared*	0,827945
F (6, 9)	13,03025p	p value for test F	0,000547

Credible interval	7,009124	Akaike Information Criterion	0,018247
Schwarz'Bayes- Criterion	5,389874	Hannan-Quinn Criterion	0,258693

Test for normality of residuals –
Null hypothesis: the random component has a normal distribution.
The test's statistics: Chi-square (2) = 3,51251, p-value = 0,17269.

The results of this study indicate, that there is a statistically significant relationship between non-financial resources of the health system and health indicators for the female population. Basing on the models 1 and 2 we can conclude that, from the point of view of LE, the availability of diagnostic equipment (echocardiograph and MRI) is crucial, and so is the density of primary care nurses. With increasing age acquisition of hospital service resources plays also an important role - the number of hospital beds and operating rooms. Models 3 and 4 suggest a stronger connection between human resources (primary care's doctors and nurses), the number of hospital beds and operating rooms and diagnostic equipment (CT) and the LE for women aged 45 and 60. In any case, this relationship is statistically significant at the level of α= 0.01. All models have confirmed the relationship between the distribution of resources and the life expectancy for women, which allows the adoption of the H1 hypothesis, although the results do not provide any consistent interpretation.

In the second stage of the study we tried to determine the differences in LE, generated by the distribution of resources. The results of the estimation, carried out with the use of the WLS method for cross-sectional data for women at the age of 60, in the period of 2009-2013, show, that women in Kujawsko-Pomorskie voivodeship, live about 0.59 year shorter than, on average, women in the other voivodeships with the same resources. On the other hand, in Podkarpackie voivodeship, women live 0.85 year longer than in the other provinces. The typical voivodeships, characterised by equal levels of employed resources are Dolnośląskie, Lubelskie Lubuskie, Małopolskie, Opolskie, Warmińsko-Mazurskie and Wielkopolskie voivodeships (Table 13). Those results have allowed us to confirm the H2 hypothesis, concerning unequal distribution of non-financial resources.

Table 13. WLS estimation, using 80 observations – dependent variable (Y_i): LEF_60

Variable	Coefficient	Standard error	t-Student test	p-value
const	23,2615	0,106242	218,9495	<0,0001***
NURSE	0,655653	0,0956168	6,8571	<0,0001***
GP_DOC	1,14738	0,111383	10,3011	<0,0001***
BEDS	- 0,650915	0,0412007	- 15,7986	<0,0001***
ECHO	18,6974	5,24264	3,5664	0,0007***
CTG	32,515	13,776	2,3603	0,0213***
MAG_RES	- 26,5585	11,9746	- 2,2179	0,0301***
Kujawsko-Pomorskie	- 0,595936	0,0665969	- 8,9484	<0,0001***
Łódzkie	- 1,0929	0,0563057	- 19,4101	<0,0001***
Mazowieckie	- 0,371348	0,092903	- 3,9972	0,0002***
Podkarpackie	0,846137	0,115684	7,3142	<0,0001***
Podlaskie	0,740503	0,123581	5,9921	<0,0001***
Podlaskie	- 0,590817	0,0862879	- 6,8470	<0,0001***
Pomorskie	- 0,701863	0,0936243	- 7,4966	<0,0001***
Śląskie	0,515053	0,0690193	7,4624	<0,0001***
Wielkopolskie	- 0,214381	0,0614423	- 3,4891	0,0009***

* significance level α = 0.1, ** significance level α = 0.05 *** significance level α = 0.01

Table 14. Basic statistics for weighted data

Residual sum of squares	23,75688	Final prediction error	1,101880
Coefficient of determination R-squared	0,390070	*Adjusted R-squared*	0,945279
F (15, 64)	0,896767	p value for test F	2,46e-37
Credible interval	13,03025p	Akaike Information Criterion	256,7015
Schwarz'Bayes- Criterion	7,009124	Hannan-Quinn Criterion	271,9818

Table 15. Basic statistic for non-weighted data

Average value of dependent variable	23,75688	Final prediction error	1,101880
Residual sum of squares	0,390070	*Adjusted R-squared*	0,945279

Test for normality of residuals –
Null hypothesis: the random component has a normal distribution.
The test's statistic: Chi-square (2) = 0,244947, p-value = 0,884729

Results have proved a statistically significant (at the level of α= 0.01) positive relationship between the number of primary care's doctors and nurses and LE for women aged 60. Similarly, a positive correlation can be observed between the number of diagnostic equipment and LE. The results indicate the importance of primary care resources, including diagnostics, from the point of view of population's health indicators.

All these considerations relate to the impact of the level of health care resources on the population's health in the region. Using the same amount of the non-financial health resources, women aged 60, on average, live longer or shorter depending on the voivodeship.

The research has confirmed, partly, the relationships, indicated in the literature, between the number or density of doctors and mortality rates and life expectancies (Ricketts & Holmes, 2011; Horev, Pesis-Katz & Mukamel, 2004; Chen et al., 2004). Also the study carried out by Anand and Bärnighausen (2004) proved, that the cross-country results strongly confirmed the importance of human resources for health in affecting health outcomes in attaining health-system goals. Starfield et al. (2005) showed, that an increase of one primary care physician per 10,000 population was associated with a 6 percent decrease in all-cause mortality. For total mortality, an increase of one primary care physician per 10,000 population was associated with a reduction of 34.6 deaths per 100,000 population at the state level (Starfield et al., 2005).

A broader analysis, however, require the negative relationship between number of hospital beds and LE. A simplified interpretation could lead to the false conclusion that reducing of the number of beds in hospitals would lead to an improvement of population's health status. Such results are the result of the processes, which have taken place in Polish health care system – in recent years, the number of hospital beds has decreased, accompanied by a systematic extension of LE. The analysis of this relationship requires, definitely, further research, due to the importance of the intensity of use of the beds, expressed by the number of benefits per one bed or the average length of hospitalization.

Conclusions

We have verified two research hypotheses. The results of these empirical studies indicate, that there is a significant relationship between non-financial health resources and health of women at the age of 45 and 60. Basing on estimated models, we can conclude that the benefits that have the strongest impact on the state of health are: the number of primary care doctors, the number of nurses in hospitals and primary health care, and infrastructure, especially the number of beds and diagnostic equipment. On the other hand, it is difficult to conclude, that the inequality in the distribution of resources between regions generate health inequalities.

This research is a part of the global assessment of the allocative efficiency of non-financial resources of Polish health care system. The next step will aim to build an econometric model estimate using panel data from the years 2009-2013 that will provide an improvement of results, in several following ways, such as - an increase in the number of degrees of freedom and a reduction of the problem of collinear constraints data, facilitation of identification of econometric model parameters and selection of competing economic assumptions, allowableness of elimination or reduction of the burden on estimators, provision of basics evidence in micro analysis carried out on the basis of aggregated data.

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IMPACT OF HOSPITAL'S PROFITABILITY ON STRUCTURE OF ITS LIABILITIES

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Abstract. *We have analysed the relationship between hospitals' profitability ratios and debt. We have used data covering financial information from 333 hospitals (V4 group). The data was obtained from Amadeus-database. Methods used: ANOVA, t-Student test. We have found that contrary to the pecking order theory hospitals with low profitability show smaller use of debt in financing, which can limit access to both equity and debt capital.*

Keywords: *pecking order theory; hospitals; finance, debt.*

Introduction

Hospitals play an extremely important role in the health care system, as they provide health services of the highest level of specialization. Hospital activity is thus of the utmost importance for local communities. Hospitals, especially public hospitals, often fulfil additional social tasks, going far beyond the provision of health services. It is important, because most of hospitals in the V4 Group are public entities, the main goal of which is not only generating profit, but providing equal access to health benefits as well. However, this is not possible, if the hospital's financial condition is poor, because, as a result of existing budgetary constraints, such a situation does not allow to continue the operating activity, or leads to reduction of the quality of benefits. It creates the need to maintain profitability, at the level sufficient to continue basic activities – the investments are mostly financed from the state budget or the budgets of local authorities. Notwithstanding the specifics mentioned above, hospitals are usually rated with the same tools as other companies. Profitability and debt are still the basic indicators of hospital financial health assessment.

Hospitals in V4 countries

Health system in the countries of the V4 Group (the Czech Republic, Hungary, Poland, Slovakia) are organized on the basis of the universal health insurance. In all the analysed countries the dominant source of funding comes from public resources - primarily in the case of the inpatient care. Public participation in the financing of hospital care is extremely high - from 87.6 % (Hungary) to 96.9% (the Czech Republic). In the hospital sector, public ownership dominates (regardless of the legal form of the activity) (Table 1). Private hospitals are relatively few and they usually focus on selected benefits only, so they often achieve better financial results. Public hospitals, often owned by local authorities, must ensure a wide access to health benefits. As a result, public hospitals are forced to provide also benefits, which are under-funded by payers (Gavurová et al., 2014; Michalski, 2010).

Expenditures on inpatient care are, basically, at the same level, with the exception of the Czech Republic, where they seem to be significantly higher, which may be associated with a higher rate of inpatient care admission/discharges per 100 population. The number of hospitals is essentially similar – except for Hungary, where it is lower; however, taking into account a large number of beds, it suggests, that Hungarian hospitals are significantly larger than those in other countries. Funding mechanisms are also similar – the money generally comes from contracts negotiated directly between hospitals and payers (health insurance institutions). Hospital activities, in the case of public entities, are often subsidised by public authorities. As for the investment funds, they mostly come from local authorities or governmental grants (Table 1). These similarities allow to consider hospitals from the V4 Group as a homogeneous research group.

Table 1. Comparison of selected health system characteristics (V4 Group) (based on HOPE European Hospital and Healthcare Federation Data)

	CZ	HUN	PL	SL
Expenditure on inpatient care per capita (PPP$)	640,2	454,6	464,8	402,9
Public inpatient expenditure as % of total inpatient expenditure	96,90%	87,90%	94,70%	95,10%
Hospitals per 100.000 population	2,43	1,73	2,51	2,56
Hospital beds per 100.000 population	683,55	718,18	654,84	597,54
Public inpatient beds as % of total inpatient beds	85,78%	96,87%	73,15%	-
Inpatient care admission/discharges per 100 population	20,48%	20,42%	16,15%	18,46%
Hospital financing	The major part of budgets are covered by health insurance, as well as by the state, regional and local authorities which contribute to hospital budgets	Contracts with the national health insurance administration	Contracts negotiated directly with hospitals, the state budget funds, tertiary healthcare funds	Contracts negotiated with the national health insurance administration
Hospital investments	Investments are funded by the state budget and by local authority budgets	Investments are funded by the state budget and by local authority budgets	Investments are mostly funded by local authorities or state budget	The state budget (The Ministry of Health)
CZ – Czech Republic; HUN – Hungary; PL – Poland; SL - Slovakia				

Our previous studies have shown, that the profitability of hospitals (especially public ones) is low or very low (Prędkiewicz, Prędkiewicz & Węgrzyn, 2014; Bem et al., 2014a; Bem et al., 2014b; Bem, Ucieklak-Jeż & Prędkiewicz, 2014; Prędkiewicz et al., 2014; Hajdikova, Komarkova & Pirozek, 2014), Bem & Michalski, 2014; Michalski, 2010). This observation generally involves all countries of the V4 Group.

The relationship between profitability and debt

Hospitals usually incur debt for two reasons. The first one is the need for financing of small investment (e.g., equipment). The second is related to the necessity of financing current activities, which is associated with the need to maintain financial liquidity. Regardless of the motives, it is important to study the relationship between profitability and debt of the hospitals.

The literature provides a wide variety of evidence concerning the relationship between profitability and debt, but generally they come from the sector of commercial enterprises and refer to the capital structure theory. The relationship between debt and profitability may be explained by two theories – the pecking-order theory and the trade-off theory (Cole, 2013).

The trade-off theory suggests that the more profitable a company is, the less liabilities it uses to finance operational activities. At the same time, corporate bodies want to take advantage of the tax benefits associated with the cost of debt. The trade-off theory focuses on taxes and bankruptcy costs. In accordance with this assumption, the company defines the level of debt, which minimizes the cost of company's capital and maximizes its value. The company strives to maintain the optimal value of the debt indicators that maximize the profitability of the company. As a result, it implies a positive relationship between profitability and debt. Several studies confirmed the existence of such dependence, especially for large companies (Shyam-Sunder & Myers, 1999; Frank & Goyal, 2003).

According to the pecking-order theory, financing comes from three sources: i.e. internal funds, debt and new equity. The most preferred source are retained profits. In the case, when such funding is not possible, which can be associated with a poor financial situation, the enterprise is forced to seek an external capital, mostly in the form of loans and credits. The new equity it considered as the last resort. Companies prefer debt than the new equity (Shen, 2014).

Companies that are more profitable, are generally more conservative on the issue of debt acquisition, which suggests a negative relationship between profitability and debt (Frank & Goyal, 2009; Michalski, 2015). Many studies confirmed this assumption (Jõeveer, 2005; Tong & Green, 2005; Charalambakis & Psychoyios, 2012; Psillaki & Daskalakis, 2009; Chen & Strange, 2005). The study on Polish enterprises also showed a negative relationship between profitability and debt. Mazur (2007) confirmed that companies having high profitability and high liquidity, prefer internal funds. Rajan and Zingales (1995) confirmed the negative correlation between profitability and debt. In the short term, if the debt is the dominant form of financing, it reduces the company's profitability. They demonstrated, that the relationships were stronger with the increasing size of the company. Rajan and Zingales also claimed, that the companies which are profitable and, on the other hand, have relatively little investment's capacity, may have the more positive relationship between profitability and the level of debt. Titman and Wessels (1988) also investigated the relationship between profitability and debt and proved a strong negative relationship. They found, that the company's profitability from the previous periods affect the volume of retained profits. The availability of retained earnings is, therefore, an important determinant of the current capital structure (Szczygiel et al., 2015; Šoltés & Gavurová, 2014). On the other hand, Philosophov and Philosophov (1999) stated, that there were no connections, linear or non-linear, between debt and profitability.

According to these analysed relationships, the literature provides very limited and mixed evidence regarding the relationship. Some research confirmed that high profitability might decrease the level of debt ratios (Chung, Seung Na & Smith, 2013). Wedig et al. (1988) suggested, that hospitals characterised by lower profitability, have higher levels of financial leverage, due to lower profits. Valvona and Sloan (1988) proved, that private hospitals use financial leverage to a greater extent than public hospitals, and are generally levered more than other fields of industry (Michalski, 2014; Raisova et al., 2014).

Other research proved, that hospitals, which were more exposed to bankruptcy are less prone to take on debt. Collapsing hospitals usually limit the debt, in order to be more attractive to potential investors (Landry & Landry, 2009) – which would suggest a positive relationship between the analysed values. At the same time, Langland-Orban et al. (1996) also showed that hospitals with higher profitability had lower debt ratios, which implies a negative relationship. Vogel (et al., 1993) also confirmed a negative link between the low level of debt and the extraordinary profitability. On the other hand, part of the research did not confirm, the relationship between debt and profitability (Ngorsuraches & Sornlertlumvanich, 2006).

Research concept

The aim of the research was to analyse the relationship between profitability and structure of capital in hospitals in the V4 group. We assumed that the pecking-order-theory can be used to describe hospital financial management. As in Titman and Wessel (1988) research we assumed that higher use of debt is the consequence of low long-term profitability because hospitals prefer retained earnings rather than bank loans. On the other hand, losses or low profits lead to demand for external capital. On that basis we set our hypothesis:

H1: *Hospitals with lower profitability level use bank loans on a larger scale when compared to the more profitable ones.*

The research sample includes financial data from 333 hospitals coming from countries of the V4 group (the Czech Republic, Hungary, Poland and Slovakia). The data comes from Amadeus database. We have used statistical methods, first of all, the Student t-test and ANOVA. We have used GRETL package and Microsoft Excel.

Methodology and data

In order to prove this hypothesis, we created the database, consisting of financial data from 333 hospitals. Hospitals were collected by hand, to ensure the homogeneity of the sample. Financial data for the year 2013 have been obtained from the Amadeus Database.

Initially, we investigated 416 medical entities from the Czech Republic, Hungary, Poland and Slovakia. Some of the observations were removed due to lack of all the required data. Entities, for which providing hospital services were not a primary activity, were also excluded. We decided to investigate only hospitals meeting the criterion of having an admission room, and at least 2 hospital wards, in order to exclude hospitals providing mainly “one day” surgical procedures, due to its special financial character. We also removed small entities, with total assets and operating turnover below 1 mln EUR.

The research sample included: 94 Czech hospitals (36,7% of hospitals in the Czech Republic), 10 Hungarian hospitals (5,8% of hospitals in Hungary),212 Polish hospitals (21,9% of hospitals in Poland), and 17 Slovak hospitals (12,1% of hospitals in Slovakia). Selected hospitals were both private and public, and operated in different legal forms. The sample included also teaching hospitals. We qualified into this study both public hospitals (owned by the government or local authorities or with a public majority shareholding) and private hospitals, regardless of the legal form of the activity. We removed outliners by removing top and bottom 5% values for each indicator.

In order to measure the level of profitability, we decided to use several indicators:
- mEBIT (operating margin), described by the formula: (Revenue – Cost of Goods Sold – Operating Expenses)/Operating Turnover;
- ROA(b) (return on assets before taxes), described by the formula: profit before taxes/total assets.

The level of profitability was calculated for the year 2013 and, as the average value for 2011-2013 (3 years) and 2009-2013 (5 years) ,in order to include short and long term profitability.
The level of debt has been measured with the use of the following debt indicators:
- Loan Debt Ratio (Assets ratio), described by formula: ([(long term debt + short-term loans) / total assets].
- Loan to Turnover Debt Ratio (Turnover ratio), described by formula: ([(long term debt + short-term loans) / Operating Turnover].

We decide to use the second debt indicator in reference to our Polish experience. Public hospitals in Poland often do not have property rights for their real estate (land plots and buildings). Buildings are often owned by local governments or other local authorities and hospitals use them without property rights. Another problem related to the assessment of Polish hospital debt is that public hospitals cannot go bankrupt, effectively. Their debts are usually guaranteed by local or central authorities, if the ownership is strictly public. Consequently, there are cases of hospitals which keep on their medical activity having debts greater than their total assets. Debt ratio measured by dividing loans by operating turnover may nullify the effect of lower fixed assets.

The differences among means (average values) were tested using t-Student test and ANOVA. The statistical significance of differences were tested using the F-test. The analysis was carried out using GRETL software and Microsoft Excel.

Results

During the first step of our research we divided the whole sample into dichotomy groups characterized by profitability indicator greater and lesser (or equal) than 0. Then we used a more precise split into profitability quintiles.

The analysis based on dichotomy groups with ROA(b) either greater or lesser than 0, did not give any significant results. Average debt ratio (assets based) was ca. 9,5-9,8% for hospitals with losses and 10,7-11,1% for the profitable ones, but the difference was not statistically significant (p-values above 30%). Similar outcomes were obtained in the case of debt ratio based on operating turnover - still statistically insignificant, except for the 3-year-average (see Table 1).

Table 1. Hospital debt ratio by profitability - ROA

Profitable	Assets ratio			Turnover ratio		
	ROA2013	ROA3Y	ROA5Y	ROA2013	ROA3Y	ROA5Y
Yes	11,06%	11,09%	10,74%	12,02%	12,65%	12,04%
No	9,77%	9,48%	9,72%	9,69%	8,45%	9,03%
Average	10,4%	10,4%	10,4%	10,9%	10,9%	10,9%
p-value	48,57%	33,14%	54,11%	32,64%	4,49%	15,42%

First results showed, however, that hospital behaviour could be inconsistent with the pecking order theory. Results of the EBIT margin (m EBIT) analysis were much more meaningful (see Table 2). The difference of the margin EBIT among hospitals with operating loss and those with operating profits were still statistically significant. Hospitals which are unprofitable at the EBIT level, were less prone to use debt as source of financing. This tendency proved to be stronger than at gross profit/loss ratio level.

Table 2. Hospital debt ratio by profitability – EBIT margin

Profitable	Assets ratio			Turnover ratio		
	mEBIT2013	mEBIT3Y	mEBIT5Y	mEBIT2013	mEBIT3Y	mEBIT5Y
Yes	11,81%	12,28%	11,96%	12,33%	13,48%	13,43%
No	7,26%	7,36%	7,84%	7,60%	6,39%	6,81%
Average	10,4%	10,4%	10,4%	10,9%	10,9%	10,9%
p-value	1,04%	0,31%	1,36%	3,67%	0,07%	0,17%

We have found, that in all cases hospitals characterised by the lack of operational profitability used the debt to a lesser extent, regardless of the relation of the debt to assets or turnover. Those hospitals were financed with loans at the level about 33% lower than profitable ones. In this case the differences were statistically significant for all analysed ratios.

During the next step we grouped hospitals into profitability quintiles. Based on ANOVA analysis, we have proved that, contrary to the pecking-order-theory, highly profitable hospitals were characterised by higher loan debt ratio, regardless the relationship of the debt to assets or to turnover. These relationships were, however weak, in the case of profitability measured with ROA indicator (see Table 3).

Table 3. Hospital debt ratio by profitability quintiles - ROA

Profitability quintile	**Assets ratio**			**Turnover ratio**		
	ROA2013	ROA3Y	ROA5Y	ROA2013	ROA3Y	ROA5Y
1	8,09%	9,30%	10,42%	8,88%	6,63%	8,97%
2	8,10%	9,54%	9,32%	7,43%	9,76%	8,14%
3	12,23%	9,56%	6,76%	10,70%	9,53%	7,43%
4	11,17%	12,14%	14,85%	15,71%	15,43%	19,18%
5	12,09%	11,33%	10,86%	11,67%	11,94%	10,48%
Average	10,4%	10,4%	10,4%	10,9%	10,9%	10,9%
p-value	23,68%	75,93%	2,3%	9,67%	12,05%	0,08%

Hospitals having high return on assets were characterised by high level of debt (4-th and 5-th quintile) regardless of applied ratio-methodology (assets or turnover). At the same time, hospitals with lower ROA (1st and 2nd quintile) showed much lower level of loans.

This tendency - highest debt ratios for 4th quintile, instead of in 5th- could be explained by high interest paid by the most indebted entities, which finally lowered their overall profitability. Generally, we have shown that profitable hospitals were more heavily in debt, which could also mean that there was a strong trend not to use debt as a primary source of financing in the case of less profitable entities and the opposite tendency for profitable ones.

It could be magnified by the fact that hospital finance with debt must pay interest, which lowers their profits. We can also assume, that hospitals using debt as a source of financing should have profit high enough to remain in the upper quintile of profitability. This situation should also lead to stronger disparity, if the analyses of debt ratio were based on operating margin quintiles. As we originally expected, the results have been clearer if profitability were measured using EBIT margin (see Table 4).

Table 4. Hospital debt ratio by profitability quintiles – EBIT margin

Profitability quintile	**Assets ratio**			**Turnover ratio**		
	mEBIT2013	mEBIT3Y	mEBIT5Y	mEBIT2013	mEBIT3Y	mEBIT5Y
1	7,58%	7,89%	9,85%	7,91%	6,71%	9,39%
2	7,03%	6,95%	6,49%	6,56%	6,14%	4,99%
3	10,6%	9,77%	8,21%	8,17%	8,98%	7,09%
4	12,17%	13,07%	13,43%	13,31%	12,49%	14,05%
5	17,72%	14,23%	14,76%	19,07%	19,45%	20,15%
Average	10,4%	10,4%	10,4%	10,9%	10,9%	10,9%
p-value	1,29%	1,62%	0,31%	0,03%	0,01%	<0,01%

In almost all analyses presented in this research, we have found a clear pattern - the most profitable hospitals had the highest debt ratios, while the least profitable entities used debt on a smaller scale. The only exception from this rule were hospitals with high long-term-losses measured at the ROA level. We have assumed, that it was the result of high interest related to loans. On the other hand, hospitals characterised by high profitability at EBIT level, may borrow funds with high interest, which significantly lowered their gross profit. Consequently, those hospitals fell into lower ROA quintile. It has also suggested us, that hospital managers probably used financial leverage only, when they achieved high EBIT margin, multiplying return on equity ratio.

Conclusions

All presented results have contradicted the pecking order theory, which assumes, that retained profit is first to be used as a source of financing, especially in comparison to debt and new equity. As a consequence, less profitable entities, which cannot earn any profits, should start using external source of capital, like debt, earlier and on a larger scale than those having their own funds (see also: Michalski, 2008). Our research has proved quite the opposite behaviour. We suppose, that it can be the effect of inability to apply successfully for bank credit in the case of profitless hospitals. Banks are not prone to grant loan to entities which constantly report losses, unless they are guaranteed by public authorities.

We surmise that the need for capital must be fulfilled in other ways – in a form of owners' grants or subsidies, capital contributions or the EU funds. Furthermore, the unmet demand for capital is dangerous for further existence of any hospital with lower profits. They don't have a sufficient access to bank credit and can't create equity capital through retained profits. From the point of view of growing needs for investment, related to increasing quality of healthcare services, it could lead to potential problems with patients' safety and satisfaction. It could also lead to a dangerous situation, where profitable hospitals have both sufficient amount of equity and debt, while the other entities have neither enough equity capital nor access to debt. Such a situation can be, nowadays, observed in Poland, where most public hospitals report losses and, on the other hand, there is a small group of profitable entities, which have excess funds. It leads to financial problems of the first group and inefficiency of hospitals from the second group.

Our previous studies (Bem et al., 2014) have shown, that there is a big polarization between hospitals, in terms of liquidity. We suggest, that government should make incentives, introducing some kind of cash-pooling or internal bonds system, which could lead to granting access to debt for less profitable hospitals and the ability to generate extra profits for entities with cash excess. Another solution, which could be implemented, is a regulation, ensuring access to debt for less profitable hospitals, in the form of guaranties from specialized capital funds. Access to finance could be achieved by consolidation of hospital sector. The process of merging hospitals with different profitability could lead to more equal access to debt and internal financing.

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Appendices

Descriptive statistics of the hospital sample

	CZ	HU	PL	SK	total
	Loan ratio assets				
Min	0,0%	0,0%	0,0%	0,0%	0,0%
Max	47,9%	41,4%	47,2%	29,7%	47,9%
Mean	9,1%	14,7%	11,5%	4,9%	10,3%
St. deviation	10,46%	14,91%	12,83%	9,28%	12,03%
	p-value 8,52%				
	Loan ratio turnover				
Min	0,0%	0,0%	0,0%	0,0%	0,0%
Max	68,8%	22,2%	78,9%	41,9%	47,9%
Mean	10,0%	9,51%	12,12%	5,22%	10,3%
St. deviation	13,53%	8,19%	16,74%	10,99%	12,03%
	p-value 31,85%				

MEASURES OF HOSPITAL'S FINANCIAL CONDITION – EMPIRICAL STUDY

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Abstract. *The aim of financial condition analysis is to signal "early enough" unfavorable changes in selected business activity areas. The most popular, and largest group of signals, there are quantifiable financial signals, because most management decisions and changes in the company's environment is reflected in the financial data. In literature, and also practice, there are a lot of methods of financial condition's forecasting. Unfortunately, most of them, can't be applied in hospital industry. In this paper we have shown, that it is possible to analyse financial distress of hospitals, basing on financial ratios. The presented proposal use gradient method, which seems to be an interesting and effective proposition for forecasting financial difficulties, especially, for hospitals.*

Keywords: *synthetic measures; financial analysis; hospitals; financial distress forecasting.*

Introduction

Health system is crucial from the point of view of society's welfare. Health spending consume a significant share of gross domestic product. In the countries of Central and Eastern Europe health spending are generally lower than in the countries of Western Europe – but still, this is about 7% of GDP (OECD Health Data, 2014). A significant part of these resources are devoured by an inpatient care.

From the beginning of the 1990s, in the countries of Central and Eastern Europe, we can observe the ongoing process of health sector's reforming. The main direction designates moving away from the socialist model of health system, and adoption of a model based on universal health coverage, with bigger or lesser participation of the private sector. This change meant, from the point of view of hospitals, a new way of financing. In the period before the transformation, hospitals were funded on the basis of annual budgets - now hospital are forced to negotiate annual contracts, contract, determined the amount of provided benefits. This change meant, for hospitals, a drastic change, that essentially changed their business environment (Soltes & Gavurova, 2014).

Hospitals, in the countries of Central and Eastern Europe, are mostly public, owned by government or local-government units. On average, about 80% of the hospital beds are beds in public hospitals (HOPE, 2014). This means, in practice, that the public owner takes the responsibility for the bad situation of the hospital, which means often the need of financial support for indebted hospitals. It has an impact on the situation, also in the financial context of local governments, above all, those having smaller income potential. As a result, there is an emphasis on the implementation of the management tools, which allow monitoring, assessment and forecasting of the hospital's financial situation. Regardless of the issue of the owner's responsibility for hospital's debts, it should be highlighted, that hospitals, especially public, carry out a number of additional tasks, which go far beyond the provision of health services (Harrison & Sexton, 2004) – public hospital should assure the constant wide access to essential health care services (Michalski, 2008). The problem of financial health also has another aspect – many studies confirmed a link between the financial health of the hospital and quality of health benefits (Bazzoli & Andes, 1995; Gavurová et al., 2014; Bazzoli et al., 2007; Bem & Michalski, 2014; Bazzoli et al., 2008; Michalski, 2009). Financial problems often lead to necessary savings, which can not only lower the quality of the benefits, but may also limit access to benefits for part of the population.

For further research, it is necessary to define the concept of financial health, because the literature does not indicate one, generally accepted, definition (Michalski, 2010). The issue of financial condition is often interpret as the state associated with the problem of liquidity and solvency. In this context a good financial condition is defined as the possibility to meet, timely, the company's obligations. The financial condition may also be defined as some sort of the financial achievement, measured by cumulative changes in net assets, fund equity, or net cash flows (Wang, Dennis & Tu, 2007; Michalski, 2014).

Most of the research on the hospital's financial health bases on financial indicators, which are widely used in the corporate sector. These indicators can be applied directly, without any modification, or after a necessary modification, which aims to take into account the specificities of hospital industry (Watkins, 2000; Langland-Orban, Gapenski & Vogel, 1996; Pink et al., 2006; Gapenski, Vogel & Langland-Orban, 1993; Zeller, Stanko & Cleverley, 1997; Zeller, Stanko & Cleverey, 1996; Michalski, 2015).

Pink et al. (2006) pointed out six dimensions of financial performance that are essential for the assessment of the hospital financial health: profitability indicators, liquidity indicators, capital structure indicators, revenue indicators, cost indicators, and, finally, utilization indicators. Others researchers generally used different combinations of, enumerated above, indicators. Basing on those dimensions (indicators) we can built the synthetic measure of hospital financial condition, which should relatively easy to calculate, interpret and monitor (Raisova et al., 2014).

Since the 1960s, researchers looks for a synthetic measure of company' financial condition. Studies were initiated by Beaver (1966) and Altman (1968) and based on financial data from industrial enterprises. This study lead to creation a tool designed to forecast and measure the risk of bankruptcy. Synthetic indicators might be potentially created on the basis of selected financial and non-financial indicators. Literature studies provides only two synthetic indicators which was adapted for hospital industry (in financial distress' prediction): Z-score, based on Altman's model and Financial Strength Index (FSI). Altman's Z-score is widely known, due to applications in industrial firm. FSI, developed by Cleverley was designed especially for hospitals, and bases on four dimensions: profitability, liquidity, leverage, and the age of physical facilities (Cleverley, 2002, p.46).

Literature studies also suggest the need to create indicators which take into account the conditions arising from the location (countries, regions) and characteristics of the industry (Kitowski, 2013). This suggests, that the hospital financial health indicators, which were mostly built in the United States, even if they are adapted to the hospital industry, may not be directly implemented in the countries of Central and Eastern Europe, or even Western Europe, due to the differences in the organisation of the health system. These differences relate primarily to funding mechanisms and the degree of market regulation (Szczygiel et al., 2015).

This study correspond with current international research, leading to creation of a synthetic measure of financial condition's assessment in health care system. That's way this research is of exploratory character. During earlier research, we indicated, using taxonomic tools, the group financial indicators that had a significant impact on the assessment of the hospital's financial condition and most strongly affect current, and also future, financial situation. Presented study is a continuation of previous research, as a result of which, we built three measures of the hospital financial condition (M1, M2, M3).

The study uses financial data coming from 333 hospitals from the Czech Republic, Poland and Slovakia. The purpose of the research is to test the effectiveness of the created measure in identifying hospitals with poor financial health, through the creation of a standard model of "*bankrupt hospital",* so the hospital in bad financial situation, that can be compared with chosen dataset of "*good*" and "*bad*" hospitals.

We have posed the following research hypotheses:
H1: it is possible to build a pattern of "bankrupt hospital" on the basis of a relatively small group of financial indicators;
H2: M1and M2 measures effectively indicate hospitals in good and bad financial condition.

The study used statistical, econometric and taxonomic tools. In order to build a synthetic indicator of hospital financial situation we have used discriminate and gradient method. The estimated model of "*bankrupt-hospital*" has been verified with the cross-validation method, using training and testing dataset. Statistical analysis has been conducted using Statistica 10 software.

Methods and data

Research sample covered 333 hospitals of Czech, Polish and Slovakia. Financial data were collected from databases: Amadeus and Emerging Markets, and, additionally, hospital's financial statement, collected by authors. We initially investigated 976 hospital, assuming that every entity qualified into research should fulfil several criteria:
- hospital activity should be a main area of overall activity;
- organizational structure - only hospitals having at least a admission room and two ward – in order to remove from the sample hospitals providing mainly one-day procedures;
- hospital size – only hospitals with income higher than 1 million euro have been included into research.

Significant part of hospitals were removed due to criteria presented above and certain part of observation were rejected as a results of the lack of all required data. Finally research sample covered financial data from 333 hospitals, coming from financial statement (balance sheet, profit and loss report, and cash flow statement) for the year 2012.

The study is based on the results of authors' previous research. We have created, using gradient methods, taxonomic measures of financial hospital health (M1, M2, M3)[1]. Basing on the developed measures, we have selected a group of good and weak hospitals, which were examined in this part of the study.

In order to verify previously built measures, we chose the gradient method, which is a taxonomic tool. The gradient method bases on determination of taxonomic distances between examined objects and defined reference points (bottom, top). This procedure allow to construct synthetic indicators of different nature, by combining values of, potentially, very diversified variables, including those denominated in different units, even dummy ones. This procedure makes result relatively easy to interpret, because the output takes the form of one value, usually from the range [0,1], what increases potential practical applications of constructed indicators (Siedlecka & Siedlecki, 1990; Siedlecki, 2014).

The gradient method assumes, that the matrix X comprises of stimulants. The transform into stimulants should be done according to the following formulas:
- for nominants: $x_{it} := -|x_{it} - median(x_i)|$
(1)

[1] Results during a publication process. Research were presented on the conference "Enterprises and the Competitive Environment" in Brno, 5-6 March, 2015.

- for destimulants: $x_{it} := -x_{it}$,.
(2)
Values of financial ratios (observations of the studied phenomenon) are denoted as: x_{ij}, where:
$i = 1,2, \ldots, m$, (a number of analysed indicator);
$j = 1,2, \ldots, n$, (a number of analysed observation);
and $x_{ij} \in$ R.
In order to measure a taxonomic distance, two points must be determined:
Top: $P = [p_{1,0}, \ldots, p_{m,0}]$
Bottom: $Q = [q_{1,0}, \ldots, q_{m.0}]$
where: $p_{o,1} = max\ x_{i,j}$ and $q_{0,1} = min\ x_{ij}$
According, that QP segment describes the axes of synthetic indicator, PQ vector gradient takes a form of linear programming function:
$GR(X) = [P - Q]X^T$
(3)
and values of this function represent the value of synthetic indicator, according to formula:
$\varphi = (p_{i,o} - q_{i,0}) * x_{i,j}$
(4)
Obtained values of specific indicators, due to its construction, might take potentially very dissimilar values. In this situation, some indicators would potentially affect the constructed synthetic measure more strongly than other. To avoid this effect, obtained values are reduced to the range of [0-1] using the standardization method. Conversions should be made, from matrix X to Z, according to the following formula:
$z_{it} = \frac{x_{ij} - \min(x_{ij})}{\max(x_{ij}) - \min(x_{ij})}$
(5)
As a result, points P and Q take the following form: $P = |1, \ldots 1|$, $Q = |0, \ldots 0|$:
$\varphi = \sum_{i=1}^{m} z_{it}$, and the measure of development (μ_t) is defined as:

$$\mu_t = \frac{\varphi}{m} \qquad (6)$$

The procedure, applied in this study, covered several steps:
1) determination of μ-measure values for hospitals in poor financial condition, by specifying the minimum and maximum values of selected indicators;
2) determination of the values of μ_t and the minimum and the maximum of $x_{i,j}$ for bankrupt-hospitals training dataset
3) determination of the ranges of the $r_{i,t}$ measure, which define bankrupt-hospital financial condition (weak, good, unidentified), according to the following formula:

$$r_{it} = \frac{x_{it} - \min bankrupt(x_{it})}{\max bankrupt(x_{it}) - \min \text{bankrupt}(x_{it})} \qquad (7)$$

in this case, the value of α_t indicator can be calculated as follows: $\alpha_t = \frac{\varphi(t)}{m}$,when:
$\varphi(t) = \sum_{i=1}^{m} r_{it}$
(8)
4) testing the results using testing dataset, containing “good” and “bad” hospitals.

We have analysed the linear relationship using Pearson correlation coefficient. Pearson’s correlation coefficient indicates both the direction and strength of relationship. Due to the strength that can sometimes be questionable. The validation of the effectiveness of the financial health measures has been based on the cross-validation method. Hospitals characterised by the poor and very good financial health have been divided into two groups – training dataset and testing dataset. The cross-validation is a model validation technique which allow to assess, how the results of a statistical analysis generalize to an independent data set. Training dataset allows to build a econometric model fitted as good as possible. The estimated model is subjected to validation using testing data chosen from the same population.

Results and discussion

Based on previous research, we built three measures of hospital's financial measures - M1, M2 and M3. Using this measures we have created the ranking of hospitals, according, they may take values from the range [0,1]. Then we have assumed, that hospitals, for which the values of measures M1, M2 and M3 were lower than the mean minus one standard deviation had a difficult financial situation, and hospitals, for which M1, M2 or M3 values were higher than the mean plus one standard deviation had very good financial condition. By adopting this interpretation we qualified analysed hospital into three groups, characterised by, accordingly, difficult, average/good or very good financial conditions (Table 1).

Table 1. The assessment of hospital's financial health using the measures M1, M2 and M3

Financial condition	M1	M2	M3
Difficult	47 (17,1%)	43 (12,9%)	39 (11,7%)
Average/good	250 (72%)	251 (75,4%)	251 (75,4%)
Very good	36 (10,9%)	39 (11,7%)	43 (12,9%)

To the further research we selected hospitals, whose financial condition were rated as difficult, and hospitals whose situation were very good. The group of 57 "poor" hospitals (36 are recognize as difficult base on M1and M2 and M3, 11 only base M1, 7 only in M2 and 3 only in M3), was, then, divided, randomly, into two groups – the training dataset (30 hospitals) and the testing dataset (27 hospitals). A similar procedure was applied to hospitals characterised by very good (or good) financial situation – we created the training dataset of 30 hospitals and testing dataset of 50 hospitals from the best 100 hospitals.

In the first step, using training dataset of "poor hospitals", we built two indicators of financial condition for *"bankrupt-hospital"* by selecting 7 from 14 financial indicators for the B1 measure and 5 from 14 to B2 measure (see table 2). The selection of financial indicators based on:
- discriminatory methods,
- expert methods (measurability, availability, reliability, economy, types of characteristics);
- the analysis of the statistical significance of the average values between "poor hospitals" (training dataset) and "very good hospitals"
- the correlation analysis.

Table 2. Financial indicators chosen to construction of B1, B2 measures

Ratio	Formula	Character	Group	Measure
OPM	EBIT/Sales	stimulant	profitability	B1
CR	Current Assets/Current liabilities	nominant	liquidity	B1, B2
D%	Total debt/Total Assets	destimulant	debt	B1, B2
CF/Debt	(Net Profit + Depreciation)/Total debt	stimulant	debt	B1
TAT	Sales/Total Assets	stimulant	efficiency	B1, B2
CES	Employee benefit expense/Sales	destimulant	efficiency	B1, B2
ROCF	(Net Profit + Depreciation)/Total Assets	stimulant	profitability	B1

On the basis of the indicators, selected for the training group of *"poor hospitals"*, we built the measure of hospital financial condition (B*). In order to create B^* measure, all indicators have been transformed into stimulants and the gradient method was applied. In order to verify our training dataset of *"poor hospitals"* we calculated, again, the correlation coefficients and average values based on the group of 30 *"poor hospitals"* (training dataset) and the group of 30 *"very good hospitals"* - randomly selected from the best 100 "very good hospitals" (see table 3). We, finally, used 7 selected ratios for measure B1 and 5 ratios for B2 (eliminated ROCF and CFDebt characterised by the highest correlation coefficients), including indicators of profitability, liquidity, debt, and efficiency. Nominants and destimulants were convert to stimulant using formulas 1 and 2. The B1 and B2 measurements were built using formulas 3,4,5.

Table 3. The selected indicators for "bankrupt hospitals" (training group)

	Average value for "poor hospitals"	Aveage value for "very good hospitals"	t	p-value	N "poor hospitals"
OPM	0,069851	-0,090862	4,102293	0,000129***	30
CR*[1]	0,468621	1,775059	-3,40135	0,001220***	30
D%	0,601942	1,328344	-4,78014	0,000012***	30
CF/Debt	0,573273	-0,036921	2,406008	0,019336**	30
TAT	3,365505	1,528672	4,973887	0,000006***	30
CES	0,291515	0,554865	-8,24222	0,000000***	30
ROCF	0,234708	-0,084109	3,793178	0,000357***	30
[1] *Current Ratio calculated as deviation from the optimal value (median for 60 hospitals)* * significance level α = 0.01, ** significance level α = 0.05 *** significance level α = 0.01					

For further research both B1 and B2 measures were selected. It can be observed, that both group were actually different and correlation coefficients are less than 0,7 (see table 4) so we could built using this ratios ours B1 and B2 measurements.

Table 4. The correlation matrix for selected indicators

	OPM	CR*	D%	CFDebt	TAT	CES	ROCF
OPM	1,000000	0,023277	-0,230937	0,497041	0,204421	-0,670749	0,556652
CR*	0,023277	1,000000	-0,180390	0,094666	-0,354765	0,170516	0,011573
D%	-0,230937	-0,180390	1,000000	-0,265243	0,125297	0,323603	-0,414949
CFDebt	0,497041	0,094666	-0,265243	1,000000	0,243492	-0,357841	0,692628
TAT	0,204421	-0,354765	0,125297	0,243492	1,000000	-0,276694	0,186025
CES	-0,670749	0,170516	0,323603	-0,357841	-0,276694	1,000000	-0,429585
ROCF	0,556652	0,011573	-0,414949	0,692628	0,186025	-0,429585	1,000000
**we calculated distance from median value using data from 60 hospitals*							

Then (step 2) we calculated minimum and maximum values of selected ratios (see table 5) and the value of α_t for the B1 and B2 measurements, using the training group of *"poor hospitals"* (the distance between the analysed hospital to the hypothetical *"best hospital"* from the group of *"poor hospitals"*).

Table 5. Minimum and maximum values of B1 and B2 (unitarized measures)

	OPM	CR	D%	CFDebt	TAT	CES	ROCF
Measure B1							
MIN	-0,58574	-9,3131	-2,72154	-0,29592	0,162815	-0,85657	-0,75409
MAX-MIN	0,729254	9,21694	2,627635	0,926257	5,334226	0,514318	0,897459
Measure B2							
MIN	-0,58574	-9,3131	-2,72154	-	0,162815	-0,85657	-
MAX-MIN	0,729254	9,21694	2,627635	-	5,334226	0,514318	-

During the third step we determined the ranges (intervals) of the B1 and B2 measures, which defined financial condition (weak, good, unidentified) of *"poor hospitals"*.

Table 6. Basic Statistic for measurement B1, B2 – training dataset of "poor hospitals"

	α_t – B1	α_t – B2
Average	0,556563647	0,573957798
Median	0,573242823	0,591716158
Standard deviation	0,114307484	0,086234203
Minimum	0,073698507	0,271523071
Maximum	0,703991206	0,693028658

Employing the minimum and maximum values of the B1 and B2 measures (see table 6), we have assumed the following interpretation of the α_t indicator:
for the B1 measure:
- if $\alpha_t < 0,71$ – *a strong warning signal - high probability of financial difficulties* – that means, that the values of financial indicators are lower than in the case of *"the best"* hospital from the group of *"poor hospitals"*;
- if $0,71 < \alpha_t < 0,81$ - *a warning signal, which indicate the average risk of financial difficulties*; hospitals from this range are a slightly better than *"the best"* hospital from the group of *"poor hospitals";*
- if $\alpha_t > 0,81$ - *lack of a clear warning signal – low probability of financial difficulties*, hospitals from this area are definitely better than *"the best"* hospital from the group of *"poor hospitals"*.

The analogous interpretation can be implemented for the B2 measure:
- if $\alpha_t < 0,7$ - a strong warning signal, high probability of financial difficulties;
- if $0,7 < \alpha_t < 0,8$ - a warning signal, the average risk of financial difficulties;
- if $\alpha_t > 0,8$ - lack of a clear warning signal – low probability of financial difficulties.

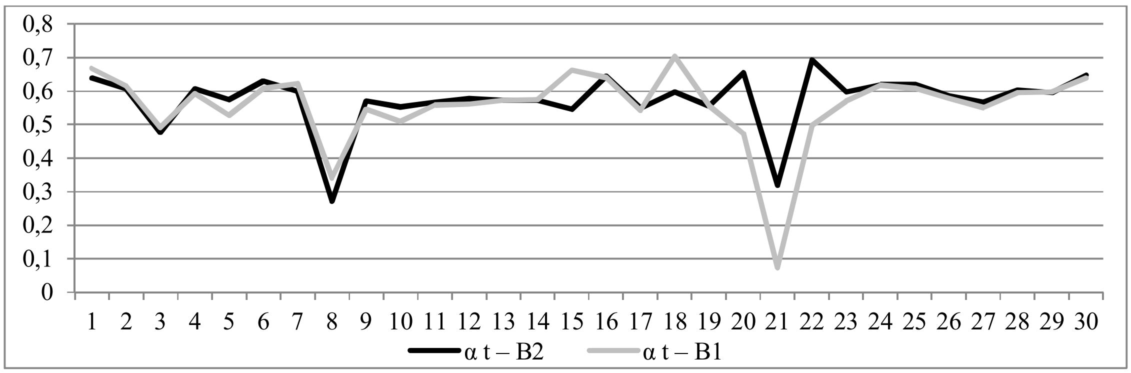

Figure 1. The value of measures for the training data of "poor hospitals"

Most of analysed hospitals was characterised by values of B1 and B2 from the range [0.5-0.7] what implied a strong warning signal. We could also observe the positive correlation between values of measures B1 and B2 (see figure 1).

In order to test, whether created measures - B1 and B2 - accurately identifies the financial condition of hospitals, we created warning forecasts for 77 hospitals (the fourth step in presented methodology). The aim was to test, whether hospitals identified as *"poor hospitals"* are, indeed, weak, and *"good hospitals"* are effectively in good condition. During this part of study, research sample covered the testing group of *"poor hospitals"* (27 hospitals) and the testing group for *"good hospitals"* (50 hospitals).
To test the new measures α_t for B1 and B2 we normalized financial ratios, according to formula 7, where we used the minimum and maximum values of B1 and B2 (see table 5) for testing ratios. Adopting this methodology, the value of α_t can be higher than 1 - some hospitals might have all ratios better than the best ratios from all poor hospitals. We have found, that both measurement B1 and B2 identified hospitals with weak financial situation very rightly, with 100% accuracy (see table 7 and figure 2).

Table 7. Effectiveness of the warning forecast (testing group of 50 "good hospitals" and 27 "poor hospitals")

	B1	**B2**
lack of a clear warning signal – low probability of financial difficulties	44	30
warning signal, the average risk of financial difficulties	6	19
strong warning signal, high probability of financial difficulties	27	27

It can be also observed, that for testing group of *"poor hospitals"* maximum value α_t for B1 and B2 is lower than in training dataset but the average value is higher, because the minimum value is higher also (see table 8).

Table 8. Basic Statistic for measurement B1, B2 – testing dataset of weak hospitals

	α t – B1	**α t – B2**
Average	0,622072	0,638323
Median	0,630388	0,635494
Standard deviation	0,039146	0,022472
Minimum	0,441175	0,59766
Maximum	0,654328	0,693713

We can also notice, that most of weak hospitals was classified as having the poor financial situation, regardless of the adoption of B1 or B2 measure. Only 1 hospital had the very low value of B1, while the B2 was as close to the average value from the group (see figure 2).

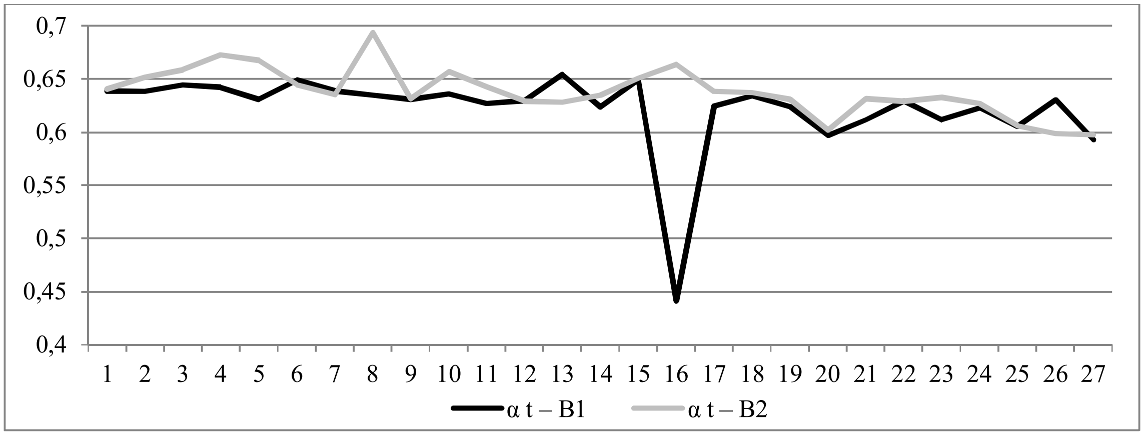

Figure 2. The value of measures for the training data for "poor" hospitals

We have found, that in the case of *"good hospitals"* some differences between values B1 and B2 occurred. Table 9 presented basic statistics for the testing dataset of 50 *"good hospitals"*. We see that average measurements are significantly higher than "poor" hospitals and the minimum is higher than maximum in poor hospitals (see table 9).

Table 9. Basic Statistic for measurement B1, B2 – testing dataset of "good" hospitals

	α t – M1	**α t – M2**
Average	0,865432	0,846479
Mediane	0,822106	0,838194
Standard deviation	0,238351	0,052292
Minimum	0,708314	0,77027
Maximum	2,470313	1,080809

It seems to be interesting that in measurement B1 one of hospital had very big value of α_t (2,5) and one is very close to financial difficulties area.

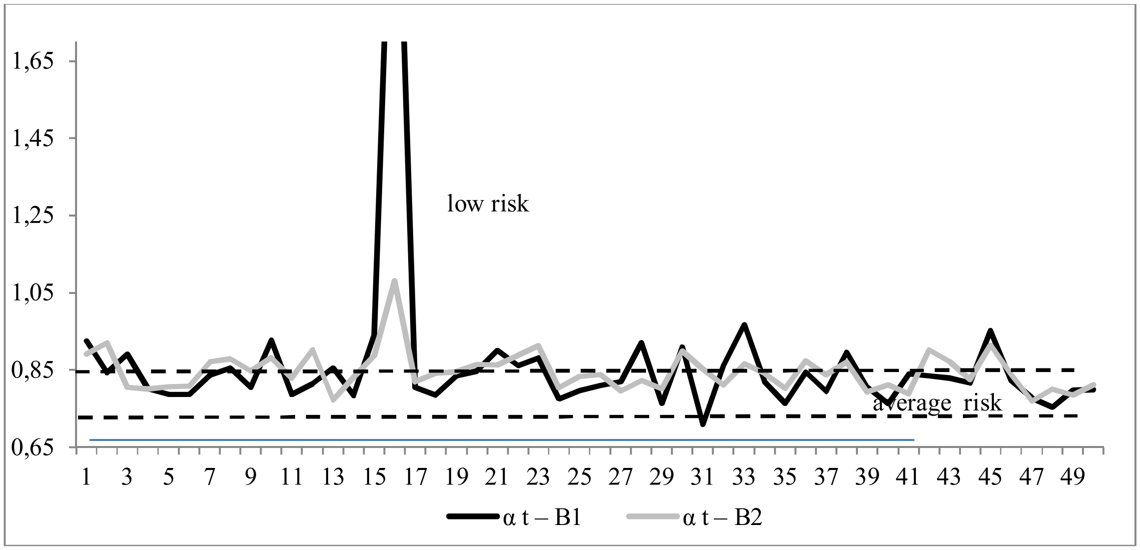

Figure 3. The value of measures for the training data for good and very good hospitals

Analyzing measurement B1 and B2 we can conclude, that the effectiveness of both measures in identifying financial difficulties is the same. We have observed, that the measure B1 is slightly better, because it recognised 44 from 50 good hospitals and only 6 classified to the grey area characterised by average risk of financial difficulties ($0{,}71<\alpha_t<0{,}81$), while the B2 measure classified 19 hospitals to the grey area (see table 7). We have also found, that the B1 measure is better to identify the best hospitals, where the sample is characterised by high volatility and extreme values (high robustness).

Conclusions

In this paper we have presented the simple and efficient method allowing the assessment of hospitals' financial health. Proposed indicators, based on the gradient method, are very simply to calculate and interpret. Both measures are built on financial indicators, what may be also interpret as their weakness, but, on the other hand, those data which comes from mandatory financial statements, are much easier to obtain, what is very important in the case of countries, like Poland, where there is no obligation to publish financial statements even in the case of public entities. This simplicity is also important, from the point of view of managers, because it doesn't require to calculate specific indicators.

Proposed measures demonstrated high efficiency, assuming that the test sample was representative. They have proved to be a very good tool for forecasting financial difficulties and determine the financial condition of hospitals. The results, presented in this paper, should be considered as conceptional ones and should be extended by including indicators specific market-based indicators.

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