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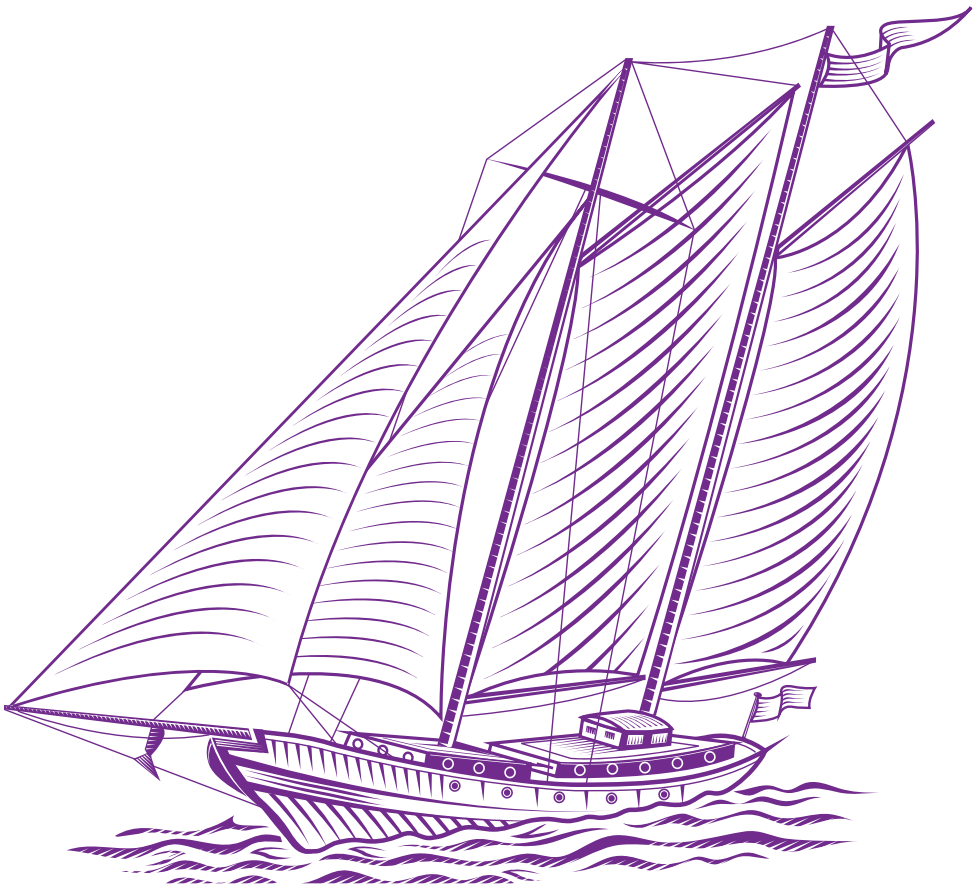

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MEASURING ROMANIAN LARGE FMCG RETAIL CHAINS EFFICIENCY DURING THE PERIOD ECONOMIC CRISIS BETWEEN 2006-2011

MONIKÁ-ANETTA ALT[1]

ABSTRACT. The purpose of this study is to measure Romanian large FMCG retail chains' efficiency during the period of 2006-2011. The sample contains 27 large retail chains. For the purpose of this analysis, the Data Envelopment Analysis (DEA) method was used. The DEA model includes three variables, namely two inputs (fix assets and the average number of employees) and one output (turnover). The results of the DEA analysis show a medium level of efficiency in the Romanian FMCG market during the period of the economic crisis. The mean score of technical efficiency varied between 0,732 and 0,575. Two retailers were selected as benchmarks: the French hypermarket Carrefour and the German discounter Penny Market. The well performing companies' market penetration and development strategies are briefly discussed. This study seems to be the first one to apply performance measurement by means of DEA in the Romanian large FMCG retail chain during the crisis period.

Keywords*: big retail chains, FMCG, hypermarket, supermarket, efficiency, Data Envelopment Analysis*

JEL: M31

1. Introduction

The development of the Romanian retail sector starts in 1990, during the same time of the transition to the market economy. The retail sector became the first private sector in the economy. In 1998, 95% of the retailers

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had private majority. During the 90' the market was dominated by traditional retailers, however modern retail formats like supermarket, cash and carry and mall appeared as well (La Fourmi in 1992, Mega Image in 1994, Metro Cash& Carry in 1996, Bucureşti Mall in 1999). The competition between traditional and modern retail format started after 2000 when new retail formats such as hypermarket, discounter and do-it-yourself stores entered the Romanian market (Profi in 2000, Carrefour in 2001, Praktiker and Bricostor in 2002).

Substantial expansion of the modern retail format starts in 2003 when the investment in retail per total Romanian investment increased from 11% in 2002 to 14% in 2003. The level of this indicator was maintained at 15% until 2008 when the economic crisis started (NSI, 2010). Between 2005 and 2008, the number of hypermarkets in Romania has exploded, with the entrance of the German retailer Kaufland and Real (Popescu, 2010). The Romanian accession to the European Union in 2007 boosted the development of the modern retail formats. The number of imported products grew significantly. The Romanian modern retail market is divided between German and French investors. The economic crisis which started in 2008 affected the retail sector significantly because of the decrease in consumption. The survival of the retail companies was difficult. Thus the performance measurement in a changing environment and intense competition has become very important in the retail sector.

The main objective of this study is to analyze the efficiency in the Romanian retail sector during the crisis period. In order to have a better understanding of the phenomenon, data was collected both before and after the economic crisis during the period between 2006 and 2011. This research focused only on big FMCG retail chains.

The paper is organized in five sections, as follows. First section represents a literature review regarding efficiency measurement in retailing using Data Envelopment Analysis (DEA). Second section represents the research methodology: the applied DEA model, the used input/output variables and sample. In the third part the research results are presented. In the fourth part the results are discussed and managerial implications are recommended. Finally, last section contains a conclusion.

2.Efficiency measurement in retailing using DEA

In efficiency measurement in retailing, Data Envelopment Analysis (DEA) is a widely used technique. The literature review revealed 17 studies in this field of retailing since 1995. These research studied were conducted mostly in a developed economy with a high competitive environment (USA, Chile, Portugal, Spain, UK and Romania). The main objectives, the research methodologies and the results are shortly presented.

Donthu et. al. (1998) studied the efficiency of 24 outlets of a fast food restaurant chain during the period 1990-1992, using DEA and regression analysis. The model was based on four inputs (store size, store location, store manager experience and promotions) and two outputs (sales and customer satisfaction).

Thomas et. al. (1998) enriched the literature with individual store efficiency measurement in USA. 552 outlets were included in the sample. Restricted DEA, CRS, output oriented model was applied with five inputs (labor, experience, location, related costs and internal process) and two outputs (sales and profit). The results outline the critical success factor for each store.

Keh and Chu (2003) contributed to the international literature proposing distributing service as an intermediate output variable. According to them, the output of the retail firm could be defined as a set of explicitly priced market goods accompanied by distribution service that are implicitly priced (accessibility, assortment, assurance of product delivery, product information and ambience). The sample contained 13 outlets of a chain of grocery stores in USA. The data was collected from 1988-1997. In the end the relationship between raw Input (labor, capital) and final output (sales) was also studied.

Barros and Alves (2003) proved the importance of outlets efficiency measurement at Portuguese hypermarkets and supermarkets. The ratio between two outputs (sales and profit) and five inputs (employees, cost of labor, cash out points, stock and other costs) shows that 37% of outlets operated at high level of pure technical efficiency in 2000. Output oriented, variable return on scale DEA model was used.

Rachford (2003) incorporated measures of services and breadth of assortment into a time series (1959-1995) study of productivity change in 54 retail food stores in USA. Cost efficiency and DEA model was applied.

Barros and Alves (2004) continued their study on the Portuguese retail market by using Malmquist productivity index for 1999-2000 years. Later Barros (2006) extended his analysis with DEA VRS output oriented and Tobit regression model at the period 1998-2003. The results show a high efficiency level of hypermarkets and supermarkets activity in comparison with other sectors. It was also found that larger retail groups are, on average, more efficient than the smaller retailers, and that national retailers are on average more efficient than regional retailers. The efficiency drivers are market share, number of outlets and location. The regulation found to have a negative effect on efficiency.

In Spain, Rubio et. al. (2006) studied for the first time the efficiency of intermediaries. The data was collected from 100 supermarkets during 1995-2001. The output oriented DEA model was applied for three inputs (employees, outlets, capital) and two outputs (sales and profits). The results reveal a high level of inefficiency in the Spanish retail sector.

Mateo de F. et. al. (2006) applied a new dynamic DEA model at 35 department stores in Chile in 2000 and 2001. Concepts like adjustment, cost adjustment, dynamic DEA, path of adjustment, adjustment period and appraisal period are used. Five inputs (sales person labor, cashier labor, sales general expense, marketing expense and store location) and on output (gross sales) are analyzed.

Rubio and Mas-Ruiz (2007) continued the Spanish retail sector efficiency analyses. The DEA and Malmquist productivity index were applied for one input (capital) and two outputs (sales revenue and operational results) during 1995-2003 years. The results show a slight increase in average annual productivity among the firms analyzed.

Moreno (2008) studied hypermarkets efficiency with data envelopment analysis (DEA) in Spanish retailing. In particular, the influence of the Retail Trade Act of 1996, by means of which the Spanish state transferred authority to concede licenses for opening commercial establishments to the regions. The analysis is based on a DEA model that allows for the evaluation of categorical variables in DEA in cross-section data. The findings suggest the existence of three different production frontiers in relation to the markets' regulation process where the hypermarkets operate; high, medium and low regulation.

Yu and Ramanathan (2008) applied for the first time productivity analysis using DEA for the UK retail sector. Economic efficiencies of 41 retail companies working in the UK between 2000 and 2005 were examined in this study using three related methodologies: data envelopment analysis (DEA), Malmquist productivity index (MPI), a bootstrapped Tobit regression model. Three inputs (number of employees, total assets and shareholders' funds) and two outputs variables (turnover and profit before taxation) were used in the efficiency model.

Mostafa (2009) measure the relative efficiency of the US 45 specialty retailers and food consumer stores using cross-sectional data for the year 2007. The DEA CRS and VRS model was applied for two inputs (employees and assets) and three outputs (revenue, market value and earnings per share). The results indicate that the performance of several retailers is sub-optimal. The author highlights the economic importance of encouraging increased efficiency throughout the retailing sector in the USA.

Moreno and Sanz-Triguero (2011) continued Spanish retail sector efficiency analyses in 12 different non-specialized retail sectors, 1997-2007. The main contribution of this research is in applying a new methodology in the retail productivity and efficiency measurement. Data envelopment analysis stochastic (order-m) and bootstrapping Malmquist index with two inputs (employees, square meters) and one output (sales) was used. The results show a high level of inefficiency in most of the sectors analyzed over the period of analysis.

In the Romanian market, retail sector efficiency was studied using DEA by Alt and Dabija (2010) for hypermarkets in the period 2006-2007 and by Alt (2012) for do-it-yourself stores in 2007-2010.

3. Research Methodology

3.1. Data Envelopment Analysis model

The Data Envelopment Analysis (DEA) method is a linear programming technique that can be used to measure the relative performance of a homogenous group of firms that produce multiple outputs with multiple inputs. The relative performance means to compare each firm to the best performer (not to the average). The concept of DEA was developed by Charnes, Cooper and Rhodes (CCR) in 1978 based on Farrell's paper "The measurement of productive efficiency" from 1957.

According to Farrell (1957) the productive efficiency (named also economic efficiency or overall efficiency) has two components: technical efficiency (TE) and allocative efficiency (AE named also price efficiency - PE). The technical efficiency reflects the ability of firms to obtain the maximum output to a given set of inputs. The allocative efficiency or price efficiency refers to the ability of firms to use inputs in optimal proportion, given their respective input prices.

Productive efficiency has two orientations: input and output orientation In case of input orientation, the productive efficiency refers to producing a given output by using the minimum possible amounts of inputs. In case of output orientation, the productive efficiency refers to producing the maximum possible output using a given amount of inputs.

Charnes, Cooper and Rhodes (1978) transposed the technical efficiency concept in a linear programming method. According to them "the efficiency of any Decision Making Units (DMU) is obtained as the maximum of a ratio of weighted outputs to weighted inputs subject to the condition that the similar ratios for every DMU be less than or equal to unity."

In 1981, Charnes, Cooper and Rhodes (1981) have improved the definition of DMU's efficiency taking into consideration the slack issues:

a) In case of input orientation: a DMU is inefficient if there are any possibility to cut down inputs quantity without raising quantity for any other input variables and maintaining the same outputs quantity.

b) In case of output orientation: a DMU is inefficient if there are any possibility to raise any output quantity, without raising input quantity or cut down other output quantity.

While in the first period of DEA analysis the model of constant return on scale was mostly used later the variable return on scale (VRS) was considered more proper to reflect the reality. The variable return on scale assumes that an increase in inputs does not result in a proportional change in the outputs.

In this paper output orientation VRS DEA model was applied. In case of retailer's efficiency analyses the output orientation is more proper because the objective of retailer is to increase their output. The used mathematical model is presented bellow.

There is a sample of N firms (DMUl, l = 1,... N) producing M outputs (Y1n, Y2n,...,YMn) with K inputs (X1n, X2n ,... XKn). The used variables have to be non-negative. For each DMU l, l = 1,..., N, a measure of a ratio of all outputs over all inputs can be obtained, such as u' Yl / v' Xl,, where u is an Mx1 vector of outputs weights and v is a Kx1 vector of inputs.

This involves findings values for u and v, such that the efficiency measure of the i-th DMU is maximized.

The efficiency of one DMU1 is calculated:

$$\frac{u' * Y_1}{v' * X_1}$$

The maximum efficiency for DMUl is calculated:

$$\max \frac{\sum_{r=1}^{s} u_r y_{rl_1}}{\sum_{i=1}^{k} v_i X_{il_1}} = h;$$

None of the DMU could be more efficient that 100%, subject to:

$$\frac{\sum_{r=1}^{s} u_r y_{rl}}{\sum_{i=1}^{k} v_i X_{il_1}} <= 1,\ l = 1,...,N;\ \ ur, vi \geq 0;\ r = 1..s;\ i = 1...k;$$

The optimal weights are obtained resolving the linear programming equation. One DMU is efficient if h = 1 and is inefficient if h<1. In other words, one DMU is efficient when no other DMU is capable of producing a higher output from the same input (output oriented).

Each DMU is evaluated regarding to the efficient frontiers and will get an efficient score relative to the best performance. Each DMU which are situated on the efficient frontier are efficient in terms of DEA, the others are inefficient and they get an inefficient score.

This study is based on three variables. Input variables used are fix assets and average number of employees. Fix assets and employees are essential in the retail activities. The output variable is represented by turnover.

For the efficiency measurement in this study, DEAP software was used. DEAP (2008) software was developed by Professor Tim Coelli from the University of New England, Australia, and it is specialized for measuring product efficiency.

Table 1. Number of stores for each retail chain in the period 2006-2011

	Retail Name	Investors	Type	First Store	2006	2007	2008	2009	2010	2011
1	Alimentara	Ro.	Sup.	1991	0	15	12	6	0	0
2	Luca	Ro.	Sup.	1991	15	16	16	16	16	13
3	Oncos lmpex	Ro.	Sup.	1991	15	16	20	29	26	25
4	Agricola International	Ro.		1992	25	18	28	21	11	38
5	La Fourmi	Lebanese	Sup.	1991	14	14	14	0	0	0
6	Annabella	Ro.	Sup.	1992	0	21	21	23	26	34
7	Mega Image	Belgian	Sup.	1994	16	21	40	50	58	94
8	Unicarm	Ro.	Sup.	1994	0	11	24	24	48	66
9	Billa Romania	Ge.	Sup.	1999	21	27	34	35	47	56
10	Profi Rom Food	Pol.	Disc.	2000	27	41	47	63	73	107
11	Carrefour Romania	Fr.	Hyp./Sup.	2001	7	32	37	42	51	67
12	Trident Trans Tex	Ro.	Hyp.	2001	3	4	3	4	4	0
13	Penny Market, Penny Market XXL	Ge.	Disc.	2001	25	45	62	73	98	126
14	Angst	Ro.	Sup.	2002	25	31	26	22	24	20
15	CDE R Interex	Ro.	Sup.	2002	9	10	11	13	13	11
16	Diana Com	Ro.	Sup.	2002	0	0	0	0	11	17
17	Cora - Romania Hipermarche	Fr.	Hyp.	2002	3	3	3	3	8	7
18	Pic	Ro.	Hyp.	2004	2	4	4	0	0	0
19	Univers'all Trading Romania	Ro.	Hyp.	2005	5	0	0	0	0	0
20	Kaufland Romania	Ge.	Hyp.	2005	15	29	39	35	55	73
21	Plus Discount Romania	Ge.	Disc.	2005	0	28	28	6	28	0
22	Auchan – MGV Distri-Hiper	Fr.	Hyp.	2006	1	5	10	26	7	7
23	miniMax Discount	Ro.	Disc.	2006	0	11	17	28	41	51
24	Real - Hypermarket Romania	Ge.	Hyp.	2006	4	13	20	21	27	22
25	Lidl Romania	Ge.	Disc.	2010	0	0	0	0	22	130
26	Mic.ro	Ro.	Sup.	2010	0	0	0	0	182	659
27	Spar	Dutch	Sup.	2006	0	14	0	0	0	0

3.2. The sample

The sample definition was a challenging process. First, the differences between the modern retail types (hypermarket, supermarket, discounter) are not very clear perception by customers. Secondly, the different types of retailers are in direct competition for customers. Third, the sample should be homogenous in order to apply DEA model. According to these reasons, the sample contains all types off retailers which are big enough to be considered direct competitors.

The sample contains the most important FMCG retail chains in Romania. All hypermarkets were included in the sample. In order to obtain a homogenous sample, only large supermarkets and discounters chains were tested. Retailers with more than 10 stores were considered big chains. The two cash&carry stores (Metro and Selgros) wasn't included in the analyses because their main activity is focusing on B2B even if they serve final consumers too.

During the studied period of 2006-2011 totally 27 retailers were studied however the number of sample varied in each year. Some retailers went bankrupt (Univers'all, Trident, Pic, Mic.ro), some retailers were purchased (La Fourmi, Plus), some retailer entered on the Romanian market (Minimax Discount, Lidl, Mic.ro), some retailers others developed their chains becoming big retailers (Alimentara, Anabella, Unicarm, Spar, Diana Com) and other retailers decreased their store number under 11 (Alimentara, Spar) during the studied period (Table No. 2).

The Romanian retail market is shared between German, French and Romanian investor. However, Belgian, Poland and Dutch investors are also present. The most important Romanian retailers (Luca, Oncos, Agricola, Unicarm and Angst) have started their activity with producing meat. Pic has both en gross and retail activities. Trident performs on transportation and retail.

4. Research Results

The performance measurement on do-it-yourself market was run separately for each year, from 2006 to 2011. The data was collected on the Romanian Ministry of Finance website (2012). The descriptive statistics of the studied variables are presented in Table 3. Unfortunately there were cases of missing data: Spar did not have available data for 2008; Pic retailer did not have available data in 2009; Plus Discount did not have available data regarding the number of employees in 2008, 2009 and 2010. In order not to exclude Plus Discount from the sample in the specified years it was estimate that the numbers of employees are same like in 2007.

From the 27 companies included in the study in the whole period, 14 companies constitute the core of the sample which is present in each year. In other words, 51% of the studied companies were stable in the studied period, they meet the requirement of the research sample or they have available data.

Table 2. Summary of descriptive statistics

	No. of employees	Fix Assets (EUR)	Turnover (EUR)	Studied Companies
2006				
MIN	301	3.204.561	13.438.936	19 chains
MAX	3.775	205.632.610	439.444.452	
MEAN	1.282	36.113.156	93.180.208	
SD	1.028	58.248.248	109.692.562	
2007				
MIN	56	635.528	1.162.887	23 chains
MAX	5.896	339.821.286	586.870.394	changes from 2006:
MEAN	1.672	45.384.722	127.883.993	- went out: Univers'all
SD	1.602	81.579.050	155.883.409	entered: Alimentara, Anabella, Unicarm, miniMax, Spar
2008				
MIN	52	688.355	1.308.999	22 chains
MAX	7.760	538.657.614	844.538.972	changes from 2007:
MEAN	2.156	71.559.661	179.188.871	- went out: Spar
SD	2.351	128.935.445	231.275.169	
2009				
MIN	47	1.505.336	1.469.222	21 chains
MAX	8.258	655.785.552	967.243.205	changes from 2008:
MEAN	2.221	82.325.497	210.532.849	went out: La Fourmi, Pic
SD	2.563	154.614.204	284.817.864	entered: Spar
2010				
MIN	74	602.075	18.906	23 chains
MAX	9.993	755.976.604	1.037.980.406	changes from 2009:
MEAN	2.158	82.601.975	203.477.815	went out: Alimentara, Spar
SD	2.646	157.369.434	293.738.503	entered: Diana Com, Lidl Romania, Mic.ro
2011				
MIN	61	567.390	983.865	21 chains
MAX	10.493	832.598.780	1.241.378.437	changes from 2010:
MEAN	2.582	96.273.985	244.965.277	went out: Trident,
SD	2.623	179.736.546	325.777.381	Plus Discount
2012	changes from 2010: - went out: Pic, Mic.ro			

The efficiency analysis using DEAP software provides the following data about each DMU: technical efficiency score, types of return on scale, slacks, peers, peers weights and input targets.

The technical efficiency scores are presented in Table 4. Beside the technical efficiency in term of variable return on scale (VRS), the efficiency in terms of constant return on scale (CRS) and scale efficiency (SE) were also calculated.

Table 3. DEA analysis results for the period 2006-2011

	Retail Name	TE, VRS in 2006	TE, VRS in 2007	TE, VRS in 2008	TE, VRS in 2009	TE, VRS in 2010	TE, VRS in 2011
1	Alimentara	-	1	1	1	-	-
2	Luca	1	0,324	0,54	1	0,371	0,552
3	Oncos lmpex	0,329	**0,194**	**0,19**	**0,219**	**0,218**	0,337
4	Agricola International	**0,206**	**0,191**	**0,195**	**0,24**	**0,204**	**0,265**
5	La Fourmi	1	**0,27**	**0,263**	-	-	-
6	Annabella	-	0,483	0,42	0,385	0,398	0,440
7	Mega Image	0,429	0,399	0,372	0,366	0,433	0,462
8	Unicarm	-	0,389	0,384	0,390	0,326	0,343
9	Billa Romania	0,954	0,929	0,817	0,696	0,623	0,602
10	Profi Rom Food	1	0,614	0,632	0,618	0,539	0,619
11	Carrefour Romania	**0,292**	1	1	1	1	1
12	Trident Trans Tex	1	**0,297**	0,303	**0,282**	1	-
13	Penny Market, Penny Market XXL	0,517	1	1	1, CRS-1, SC-1	1, CRS-1, SC-1	1, CRS-1, SC-1
14	Angst	0,95	0,378	0,365	0,432	0,388	0,432
15	CDE R Interex	1	0,644	0,708	0,759	0,981	0,594
16	Diana Com	-	-	-	-	1	1, CRS-1, SC-1
17	Cora - Romania Hipermarche	0,411	1	1	1	0,896	0,818
18	Pic	1	**0,259**	0,308	-	1	1
19	Univers'all trading Romania	0,53	-	-	-	-	-
20	Kaufland Romania	0,884	0,811	0,775	0,849	1	1
21	Plus Discount Romania	1	0,985	**0,090**	**0,036**	0,63	-
22	Auchan - MGV Distri-Hiper	0,402	0,411	0,546	0,798	0,743	0,731
23	miniMax Discount	-	1	1	1	1, CRS-1, SC-1	0,937
24	real,- Hypermarket Romania	0,402	0,577	0,741	0,741	1	0,998
25	Lidl Romania	-	-	-	-	**0,02**	0,812
26	Mic.ro	-	-	-	-	**0,141**	**0,139**
27	Spar	-	0,316	-	1	-	-
	Mean	**0,732**	**0,586**	**0,575**	**0,658**	**0,610**	**0,671**

DEA analysis shows a medium level of efficiency in FMCG retail market in Romania during the crises period. The mean score of technical efficiency was between 0,732 and 0,575. After at slow decrease until 2008 a slow increase could be seen.

In 2006, 37% (Luca, La Fourmi, Profi, Trident, Interex, Pic and Plus) from the studied chains had the score of TE one and they are located on the efficient frontier. In 2007, 22% (Alimentara, Carrefour, Penny Market, Cora and miniMax) from the studied chains are efficient in terms of TE. In 2008, 23% (Alimentara, Carrefour, Penny Market, Cora and miniMax) are located on

the efficiency frontier. In 2009, 33% (Alimentara, Luca, Carrefour, Penny Market, Cora, miniMax and Spar) had the score of TE one. One of them, Penny Market is efficient in all three terms off TE (VRS, CRS and SE). In 2010, 35% (Carrefour, Trident, Penny Market, Diana Com, Pic, Kaufland, miniMax and Real) are located on the efficiency frontier. Two of them (Penny Market, miniMax) are efficient in all three terms off TE (VRS, CRS and SE). In 2011, 24% (Carrefour, Penny Market, Diana Com, Pic and Kaufland) had the score of TE one. Two of them (Penny Market, Diana Com) are efficient in all three terms off TE (VRS, CRS and SE).

The efficient company produced the maximum possible outputs (turnover) for the given level of inputs (fix assets and the number of employees). Those companies who were efficient in terms of CRS were operating at the most productive scale size (SE=CRS/VRS).

There is no one company which is efficient during each year of the studied period. There are two companies (Carrefour, Penny Market) which achieved efficiency in five consecutive years and there is one company (miniMax) which achieved efficiency in four consecutive years.

According to our analysis the less efficient companies, with TE scale lower than 0,3: were Agricola and Carrefour in 2006; were Oncos, Agricola, La Fourmi, Trident and Pic in 2007; were Oncos, Agricola, La Fourmi and Plus in 2008; were Oncos, Agricola, Trident and Plus in 2009; were Oncos, Agricola, Lidl and Mic.ro in 2010; Agricola and Mic.ro in 2011.

Agricola had low performance at all the studied period. It was followed by Oncos which had low performance for four year. This low performance of Agricola and Oncos could be explained with the fact that these companies are meat producer and retailer in the same time. A big amount of fix assets is necessary for the production process. In comparison with other retailers their amount of fix assets are bigger and looked inefficient.

The data for the inefficient companies can be interpreted as follows:

- a TE score of 0,265 for Agricola in 2011 indicates that this company should increase its turnover by 73,5% using the same input;
- to improve its efficiency, Agricola had to follow in 71,7 % the model of Penny Market input/output combination's and in 28,3% the model of Pic.
- Agricola has big amount of fix assets.

The same analysis could be made for each inefficient company.

Because of the changes of the sample size, longitudinal analysis of technical efficiency was not performed. It is not possible to compare the score of TE for Carrefour in 2006, with the score of TE in 2007, or 2008, or 2009, or 2010, or 2011. The TE score should be interpreted relative to the sample in each year. However, the comparison of rank orders of companies in different years may be meaningful. All efficient companies in terms of DEA are marked with ranking one. Inefficient chains are numbered consecutively (presented in Table 4).

Table 4. DEA rankings for 6 periods

YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	YEAR 2011
1. Interex	1.Alimentara	1.Alimentara	1. Penny Market	1. Penny Market	1. Penny Market
1. La Fourmi	1. Carrefour	1. Carrefour	1. Alimentara	1. miniMax	1.Diana Com
1. Luca	1. Penny Market	1. Penny Market	1. Luca	1. Carrefour	1. Carrefour
1. Pic	1. Cora	1. Cora	1. Carrefour	1. Trident	1. Pic
1. Plus	1. miniMax	1. miniMax	1. Cora	1. Diana Com	1. Kaufland
1. Profi	2. Plus	2. Billa	1. miniMax	1. Pic	2. real
1. Trident	3. Billa	3. Kaufland	1. Spar	1. Kaufland	3. miniMax
2. Billa	4. Kaufland	4. Real	2. Kaufland	1. Real	4. Cora
3. Angst	5. Interex	5. Interex	3. Auchan	2. Interex	5. Lidl
4. Kaufland	6. Profi	6. Profi	4. Interex	3. Cora	6. Auchan
5. Univers'all	7. Real	7. Auchan	5. Real	4. Auchan	7. Profi
6. Penny Market	8. Annabella	8. Luca	6. Billa	5. Plus	8. Billa
7. Mega Image	9. Auchan	9. Annabella	7. Profi	6. Billa	9. Interex
8. Cora	10. Mega Image	10. Unicarm	8. Angst	7. Profi	10. Luca
9. Auchan	11. Unicarm	11. Mega Image	9. Unicarm	8. Mega Image	11. Mega Image
10. Real	12. Angst	12. Angst	10.Annabella	9. Annabella	12.Annabella
11. Oncos	13. Luca	13. Pic	11.Mega Image	10. Angst	13. Angst
12. Carrefour	14. Spar	14. Trident	12. Trident	11. Luca	14. Unicarm
13. Agricola	15. Trident	15. La Fourmi	13. Agricola	12. Unicarm	15. Oncos
	16. La Fourmi	16. Agricola	14. Oncos	13. Oncos	16. Agricola
	17. Pic	17 Oncos	15. Plus	14.Agricola	17. Mic.ro
	18. Oncos	18. Plus		15. Mic.ro	
	19.Agricola			16. Lidl	

Source: own research

The recession period was passed by retailers in different ways. We identified six group of companies. (1)There are only one hypermarket (Carrefour) and one discounter (Penny Market), both international chains which maintained their position on the efficiency frontier during 2007-2011. The recession period did not affect them in terms of efficiency. (2)There is one group of retailers (Alimentara, Cora and miniMax) which were efficient almost all the studied period but they lost efficiency in the end. (3)There is another group of companies which reached the efficiency frontier or increased their efficiency (Diana Com, Kaufland, Lidl and Real). These companies take advantage of the recession period. (4) Another group of companies (Oncos, Agricola, Unicarm, Annabella, Angst, Mega Image, and Profi) passed the recession period maintained their ranking on a relative constant level. Four of these companies are meat producer with a retailer chains. (5) The last group of companies (Interex, Luca, Trident, Pic, Plus, Spar, Billa and Auchan) was hard effect by the recession period, their rankings varying between the first and the last company. (6)There are some outlier like La Fourmi and Mic.ro.

The first group is interesting for benchmarking and case study model because they maintain their position on the efficiency frontier during 2007-2011. Carrefour and Penny Market strategy are presented in the discussion part.

5. Discussion and managerial Implication

This paper presents the results of a benchmarking study on FMCG retail market in Romania in the period 2006-2011, using Data Envelopment Analysis. The concept of performance is very complex. Although a multiple variable model with two inputs (fix assets, number of average employees) and one output (turnover) has been used in this study, the model reflects a simple representation of the complex reality. For instance, variables such as the elements of the marketing mix have an important role in companies' performance.

The results of DEA reveal that the Romanian FMCG retail market had a medium technical efficiency score between 0,732 and 0,575 during the recession period. The DEA model generates the efficient frontier and compares each company to the frontier. Furthermore, the model generates the optimal target inputs value for inefficient companies, which is important managerial information.

According to the efficiency analysis the French hypermarket Carrefour and the German discounter Penny Market should be considered benchmark for other retailer. Their strategy is presented bellow.

Carrefour marketing strategy

Carrefour is the first hypermarket which entered in the Romanian market in 2001 in Bucharest. In the first part Carrefour operate in the Romanian market under a franchise (Bonoiu, 2006).

After the Romanian accession to the European Union in 2007, Carrefour changes the slow penetration development strategy to an intensive one. The control of the hypermarket was taking over by the Carrefour Group from the franchiser (Bonoiu, 2006). Carrefour opened a supermarket format too on the brand Carrefour Market (Popescu, 2007 (d). The number of stores rose from 7 in 2006 to 32 in 2007. Carrefour took over Univers'all's hypermarket from Bucharest (Popescu, 2007 (b)) and Artima's supermarkets. The accession to the European Union brought the abolition of customs duties. Carrefour rose the number of imported products with 25% (especially for own brands Tex). The logistics for the imported product is supported by an own logistic center. However outsource logistic service are also used (Popescu, 2007 (c)). In the same year, Carrefour's travel agency established a partnership with Blue Air low cost airline company for turnovering tickets.

At the end of 2008, Carrefour wasn't affected by the crisis. In 2009, Carrefour continued the expansion strategy opening a new retail format, small hypermarket under Carrefour Market brand (Popescu, 2009). Instead of an aggressive promotion strategy the turnovers decreased in 2010 (Popescu, 2010). The supermarket chain was developed further. Carrefour Market was rebranded in Carrefour Express. In 2011, Carrefour, gave the franchise for Carrefour Express to Angst retailer.

In 2011 Carrefour operates 65 stores (25 hypermarkets and 42 supermarkets). According to turnover Carrefour is the second hypermarket on the Romanian Market being exceeded only by Kaufland. On the hypermarket market Carrefour are competing with Real, Kaufland, Cora and Auchan. On the supermarket market the direct competitor are Billa, Spar and Interex.

Penny Market Marketing Strategy

Penny Market is part of a Rewe Group company which operates on the Romanian market three retail formats: supermarket (Billa), cash&carry (Selgross) and discounter (Penny Market and XXL Mega Discount). Rewe Group is present on the Romanian market since 1999. Penny Market was the last division brought by Rewe Group on the Romanian market in 2005 (Popescu, 2007 (a)).

The first Penny Market store was opened in Timișoara. It was followed by 15 new stores in the same year. Penny Market applyed an intensive penetration strategy opening between 9-28 stores per year. In 2007 the XXL mega Discount was rebranded to Penny Market XXL. Like Carrefour, Penny Market established also a partnership with Blue Air low cost airline company because of the similar target segment (Popescu, 2007 (e)).

In 2008 and 2009 despite the crises, the development strategy continued but slower. Penny Market opend 17 new stores in 2008 and 11 new stores in 2009. During this period Penny Market resume network expansion for Penny Market XXL too. During the crisis period the discounter were the only operators in the food trade that continued their expansion startegy. (Popescu, 2008).

In 2011 Penny Market operats 126 stores being the second largest retail chain in the Romanian market after Lidl with 130 stores. According to turnover Penny Market is the biggest discounter on the Romanian Market. Penny Market is competing with Lidl, Profi and minMax Discount.

6. Conclusions

The Data Envelopment Analysis is a widely used method in performance measurement using the multiple variables in the retail sector. The Romanian big FMCG chain market performance measurement was based on three

variables (fix assets, number of employees and turnover). The results of DEA reveal that the Romanian studied market in the recession period had a medium technical efficiency score between 0,732 and 0,575. Two retailers were selected for benchmark: the French hypermarket Carrefour and the German discounter Penny Market.

However the presented analysis gave a good reflection of the retail market in the crisis period some limitation of the research should be mentioned also. The availability of accurate and relevant data is a challenge for this kind of research. The homogenity of the sample is another limitation, because the romanian retailer's main activity is production or transportantion not retailing. In the same time the geographic distribution of the stores is different. Smaller retailer has only a regional cover of the market not a national on.

The future research could include more different input/output variables, especially different marketing variables such as promotion, customer satisfaction, marketing expenses and distribution services. The application of another DEA model or doing a longitudinal study using Malmquist Productivity will be possible when the data for all retail chains form the sample are available for the whole period of research. The performance measurement could also be detailed at the store level for large retail chains. Finally, a detailed marketing mix analysis for retailers (product assortment, service, price strategy, communication strategy, store location and store design) in the case of each company could explain better the key success factors.

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THE RELATIONSHIP BETWEEN THE DEGREE OF COMPLIANCE WITH THE CORPORATE GOVERNANCE CODE AND ORGANIZATIONAL PERFORMANCE: A STUDY ON ROMANIAN FIRMS

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ABSTRACT. The companies listed on the Bucharest Stock Exchange (BSE) are required to adopt the BSE Corporate Governance Code on comply or explain basis. Previous studies of the relationship between the compliance and organizational performance have found a weak ling. In this study we constructed a Corporate Governance Index based on the "Apply or Explain" reports of the listed companies on the BSE. We showed that the Index is significant and negatively correlated with firm performance measured using ROA and ROE as dependent variables. Also the index proved to be significantly correlated with the size of the board of directors.

Keywords: *organizational performance, corporate governance, board duality, gender diversity, board structure.*

JEL Classification: G30, M10

I. Introduction

Corporate governance has become an important topic in practice and academic literature in recent years.

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By 1990s, corporate governance had become a major issue in all of the advanced economies and, increasingly, in developing countries as well. International organizations, including the OECD, the World Bank, and the IMF, have devoted increasing attention to corporate governance as a topic of global concern (O'Sullivan, 2001)

According to Monks and Minow (2004) the importance of corporate governance has increased dramatically in 2002 when a series of events led to the bankruptcies of large U.S. companies and the loss of thousands of jobs. The way companies are governed determined their fate as well as that of the economy in general. Failure to attract adequate levels of capital threatens the existence of firms which can have serious consequences for the entire economy. Firms that are unable to attract capital may remain outside of international markets entirely, while economies may not benefit from globalization.

The investors are interested in those companies with good corporate governance because, according to OECD (1999), Corporate governance specifies the distribution of rights and responsibilities among different participants in the company, such as managers, shareholders and other interested parties, specifying the rules and procedures for making decisions on company's affairs. In this way, it also provides the structure through which company's objectives are set, the means of attaining those objectives and monitoring performance. Thus deficiencies in corporate governance can have as a consequence not only scandals and corporate liquidations but also financial crises and economic instability.

The Center for International Private Enterprise (2002) lists some of the main advantages of a strong corporate governance. These include:

- improved access to capital and financial markets;
- higher accountability and transparency;
- stimulation of performance;
- protection of shareholders and their investment;
- reduces the incidence of corruption;
- enhancement of marketability of goods and services

The list illustrated above gives a general image of the most important benefits of a good corporate governance.

According to agency theory, (Jensen and Meckling, 1976) we can talk about a positive relationship between corporate governance and company performance. Even though there are many studies that suggest

a positive link between corporate governance and organizational performance, many companies still remained unconvinced by them. For this reason we are convinced that this paper can be of real help because it includes a detailed literature review on the above relationship with the purpose of identifying whether there is a significant and positive relationship between CG and organizational performance.

Based on this relationship between corporate governance and performance the remainder of this paper paper is organized as follows: section II includes a brief discussion on the concepts of governance and performance, section III presents a detailed literature review of the relationship between corporate governance and organizational performance, including also a summary of the caveats of such studies, section IV offers information regarding the sample, data collection and the construction of the CG index, section V includes the analysis of the link between compliance and organizational performance and section VI presents the concluding remarks.

II. Corporate governance and organizational performance – An overview of definitions

Corporate governance

The literature on corporate governance is extremely broad. Only in recent years hundreds of articles and dozens of books have been oriented toward corporate governance.

The concept of corporate governance began to take shape more clearly after 1997, in the European Union, when most countries have adopted codes of corporate governance, which were optional.

The impulse of adopting these codes has been the financial scandals related to the failure of British companies quoted on the stock market. On the other hand, the Asian economic crisis of 1978 and the withdrawal of investors from Asia and Russia have created problems for the international business community regarding the consequences of the investors' lack of trust in corporate management.

Corporate governance principles developed by the OECD (Organization for Economic Cooperation and Development) provide specific indications, meant to improve legal regulations. They formulate practical proposals to the attention of stock market authorities, investors

and other pillars that have intervened in the governance of the company. Adapting corporate governance principles for the purposes of ensuring transparency, accountability and fair treatment of shareholders has resulted in the development of the OECD Principles of Corporate Governance. The principles underlying corporate governance should ensure the strategic direction of the company. Rules and practices governing the relationships between management and shareholders of companies, employees and creditors are a guarantee of economic growth and financial stability. This allows for confidence building, capital market integrity and economic efficiency.

The concept of corporate governance encountered many definitions, depending on their perspective different authors define this concept in different ways. Thus corporate governance definitions can be groups in two categories: narrow and broad definitions. These two categories are illustrated below.

In a narrow sense, corporate governance can be defined as the relationship among various participants in determining the direction and performance of corporations. The primary participants are (1) the shareholders, (2) the management, and (3) the board of directors (Monks and Minow, 2004).

A broader definition was given by Cadbury Committee, 1992. Thus corporate governance was defined as the system by which companies are directed and controlled.

Claessens, 2003 identified another way to group corporate governance definitions. The first set of definitions deal with a set of behavioral patterns: more specifically the actual behavior of corporations, in terms of such measures as performance, efficiency, growth, financial structure, and treatment of shareholders and other stakeholders.

The second set deals with the normative framework: more specifically the rules under which firms are operating—with the rules coming from such sources as the legal system, the judicial system, financial markets, and factor (labor) markets.

According to the Center for International Private Enterprise (CIPE), which has pioneered corporate governance projects worldwide as part of its mission to combat corruption and strengthen democratic, market-based economies, corporate governance can be defined as "a means whereby society can be sure that large corporations are well-run institutions to which investors and lenders can confidently commit their funds".

Organizational performance

Organizations have an important role in our daily lives and therefore, successful organizations represent a key ingredient for developing nations. Thus, many economists consider organizations and institutions similar to an engine in determining the economic, social and political progress. Precisely for this reason, in the last 22 years, there were 6 Nobel prizes awarded to researchers who have focused on the analysis of organizations and institutions. Continous performance is the focus of any organization because only through performance organizations are able to grow and progress. Thus, organizational performance is one of the most important variables in the management research and arguably the most important indicator of an organizational success.

Although the concept of organizational performance is very common in the academic literature, its definition is difficult because of its many meanings. For this reason, there isn't a universally accepted definition of this concept in the academic literature.

In the '50s organizational performance was defined as the extent to which the organizations, viewed as a social system fulfilled their objectives (Georgopoulos and Tannenbaum, 1957:535). Performance evaluation during this time was focused on work, people and organizational structure. Later in the 60s and 70s, organizations have begun to explore new ways to evaluate their performance so performance was defined as "an organization's ability to exploit their environment for accessing and using the limited resources (Yuchtman and Seashore, 1967:379).

The years 80s and 90s were marked by the realization that the identification of organizational objectives is more complex than initially considered. Managers began to understand that an organization is successful if it accomplishes its goals (effectiveness) using a minimum of resources (efficiency). Thus, organizational theories that followed supported the idea of an organization that achieves its performance objectives based on constraints imposed by limited resources (Lusthaus and Adrien, 1998 after Campbell, 1970). In this context, profit became one of the many indicators of performance.

III. Literature review: The relationship between corporate governance and organizational performance

According to Wilkes (2004), "good corporate governance is increasingly being seen as the hallmark of a well run company".

The theory that underlines the role of corporate governance on organizational performance widely referred to is agency theory. Based on this theory, a potential governance problem is built into corporate system because of the separation of ownership from control. Agency problems emerge when the manager (agent) with the responsibility of representing the owners' best interests, pursues self-interest instead that of the owner (Khongmalai et al. 2009).

The quality of corporate governance depends on the institutional environment represented by the political economy factors, legal and regulatory standards, competition, and regulatory agents. On its turn, the quality of corporate governance has a positive impact on investors' confidence, more specifically, the higher the quality of corporate governance the higher the confidence and optimism regarding the future cash-flow. Many shareholders believe that with improved governance practices more of the firm's free cash flow will be returned to them as dividends rather than being expropriated by the managers who control the firm (Reddy et al. 2010, *after* La Porta et al., 2002). Investors seek out companies that have sound corporate governance structures (CIPE, 2002).

Also, better corporate governance has a positive impact on firm performance through better asset allocation, a more efficient management, better labor practices of other efficiency improvements (Claessens, 2006).

In other words, good governance minimises the possibility of poor organisational performance (Edwards & Clough, 2005).

Table 1 shows a review of the literature aimed at studying the relationship between corporate governance and organizational performance. Even though there are a few exceptions (Yurtoglu, 2000; Gugler et al., 2001 and Bauer et al., 2004; Ghazali, 2010) the vast majorities of studies described in table 1 show a positive and significant link between corporate governance and firm performance.

According to our synthesis of the literature the empirical studies on the relationship between corporate governance and organizational performance can be divided into two groups: the first group includes

the studies that analyze differences among different firms within a country and the second group includes studies that analyze differences among countries and their impact on performance or firm valuation. Each of these two groups are illustrated in detail in Table 1 through many studies. Among all these studies, the most prominent and cited ones from the former group belong to: Gompers et al. (2003) for the U.S., Drobetz et al. (2004) for Germany, Black (2001a, 2001b) for Russia, Odegaard and Bohren (2003) for Norway and form the latter group to La Porta et al. (2002) who analyzed 539 large firms from 27 developed economies. All these studies were no exception from the assumptions made during this paper, more specifically the positive relationship between corporate governance and firm performance. The mixed results of the studies oriented toward the relationship corporate governance performance may be attributable to several types of errors, mostly statistical errors that generally occur in such empirical studies.

Thus, a first explanation for the lack of significant results can be attributed to sample selection errors. Most of the studies have been concentrated on large companies (essentially due to the constraints of data availability, the vast majority of corporate governance data are available for large firms). Using such samples may result in sample characteristics different from those of the general population (Vella, 2000). Thus, the relationship between corporate governance and performance will not be studied properly because the impact of corporate governance can be confused with the impact of parameters that led to this selection.

Insignificant relationship between the two variables or the mixed results can be also determined by not controlling for endogeneity. A key aspect in studying the relationship between two variables refers to reverse causality, i.e. where the company's performance in turn influences the corporate governance (Bhagat and Black, 2002; Drobetz et al, 2003). In these cases, the method of ordinary least squares (OLS) will lead to inconsistent results.

Another justification for the negative results of studies focused on the relationship between corporate governance and performance refers to the time horizon. Thus, a longer time horizon is necessary to demonstrate good corporate governance impact on performance. However many studies are not based on time series to eliminate this problem.

One last point to mention in the category of possible errors in the study of corporate governance is related to the quantification of this variable. Many studies are focused on a single dimension to quantify corporate governance. Therefore it is possible that the results of these studies not incorporate the overall effect of corporate governance. Thus, it is necessary to construct a variable that provides a more comprehensive view of corporate governance.

Table 1.

Author(s)	Sample (Time period)	Corporate Governance (CG) measures	Focus of the study	Key findings
Country level studies				
Alba et al. (1998)	375 **Thailand** firms (1994-1997)	CG measure: ownership concentration	CG and financial performance	Firms with concentrated ownership show a deteriorating financial performance (profitability) relative to firms with less concentrated ownership.
Farrer and Ramsay (1998)	180 **Australian** firms (1995)	Single measure-director's ownership	Director's ownership and performance	Positive relationship between director's shareholding and performance
Yurtoglu (2000)	126 **Turkish** non-financial firms (1998)	CG measure: ownership concentration	Ownership, control and performance	Negative relationship between ownership concentration and pyramidal shareholding and profitability and firm value
Black (2001a, 2001b)	21 **Russian** firms (1999)	CG Ratings from a Russian investment bank	CG and firm value	Through a determined effort to improve the CG practices firms can improve their share values and reduce the cost of raising equity capital
Gedajlovic and Shapiro (2002)	334 **Japanese** firms (1986-1991)	CG measure: ownership concentration	CG and financial performance	Positive relationship between ownership concentration and profitability
Gompers et al. (2003)	1500 **US** listed firms (1990-1999)	Governance Index	CG and performance and firm valuation	Firms with stronger shareholder rights had higher firm value, higher profits, higher sales growth, lower capital expenditures, and made fewer corporate acquisitions
Hovey et al. (2003)	100 **Chinese** firms (1997-1999)	CG measures: ownership structure and concentration	Ownership and firm value	No significant relationship between ownership concentration and firm value; Positive relationship between institutional shareholding and firm value

Author(s)	Sample (Time period)	Corporate Governance (CG) measures	Focus of the study	Key findings
Odegaard and Bohren (2006)	1057 **Norway** firms (1989-1997)	Different variables were used to quantify CG: ownership concentration, owner type, insider ownership, board characteristics, security design (fraction of voting shares), financial policy.	CG and economic performance	Corporate governance matters for economic performance; Insiders ownership matters the most while outside ownership destroys market value; Direct ownership is superior to indirect ownership; Performance is inversely related to board size, leverage, payout and the fraction of non-voting shares
Drobets et al. (2003)	91 **German** listed companies (1998-2002)	Corporate governance ratings (CGR)	CG and firm value; CG and expected stock returns	Positive relationship between corporate governance and firm value Negative correlation between expected returns and corporate governance
Khanchel El Mehdi (2007)	24 listed **Tunisian** firms (2000-2005)	8 different variables to measure CG	CG and market value	Positive relationship between CG and marginal market value
Mashayekhi and Bazaz (2008)	240 listed **Iranian** firms from the TSE(2005-2006)	3 variables used to measure CG (board independence, board leadership and institutional investors on the board)	CG and firm performance	Negative relationship between board size and firm performance. The presence of outside directors strengthens the firms' performance. No significant relationship between leadership structure and firm performance. The presence of institutional investors on the board of directors is not positively correlated with firm performance.
Reddy, Locke and Scrimgeour (2010)	top 50 publicly-listed companies on the NZX50 from **New Zealand** (1999-2007)	Different variables used to quantify different CG principles	CG and firm performance	Board independence and board size do not have any significant effect on firm performance Compliance with NZSC corporate governance requirements has a positive influence on company performance
Ghazali (2010)	87 non-financial listed **Malaysian** firms (2001)	2 variables used to measure CG (board size and independence)	CG and firm performance	No significant relationship between corporate governance variables and corporate performance

Author(s)	Sample (Time period)	Corporate Governance (CG) measures	Focus of the study	Key findings
Cross country studies				
Claessens (1997)	Czech and Slovak firms (1992-1993)	CG measure: ownership concentration	CG and equity prices	Positive relationship between ownership concentration and domestic shareholding firm value
La Porta et al. (2002)	539 large firms from 27 developed economies	CG measure: shareholder protection		Better shareholder protection is associated with higher valuation of corporate assets.
Klapper and Love (2004)	374 firms from 14 emerging markets (1999)	CG ratings from CLSA Asia-Pacific Markets	CG and firm performance	Strong correlation between the quality of CG and profitability and firm value – better CG leads to higher profitability and firm valuation
Bauer et al.(2004)	250 firms included in FTSEurofirst 300 (2000-2001)	Deminor ratings	CG and stock returns CG and firm performance CG and firm value	Positive relationship between stock returns and firm valuation on one side and corporate governance on the other. This relationship weakens substantially after adjusting for country diferences. Negative relationship between CG and firm performance
Durnev and Kim (2005)	859 firms from 27 countries (1999-2001)	CG ratings from CLSA CLSA Asia-Pacific Markets	CG and firm value	Positive relationship between CG and firm value
Renders, Gaeremynch and Sercu (2010)	938 firm-year observations from FTSEurofirst 300 (1999-2003)	Deminor ratings	CG and firm performance	Significant and positive relationship between CG ratings and firm performance. The strength of the relationship depends on the quality of the institutional environment.

Source: Own compilation based on a literature review

IV. Data, sample and index construction

The sample of this research study is composed of the tier I, II and III listed companies on the Bucharest Stock Exchange. We excluded from our sample the financial companies due to the special regulatory environment in which they operate.

The data sources - information regarding the firm's financial performance, board characteristics and CG index - were the annual reports from 2010 of the sampled firms collected for each firm individually

from their web page or the database with the financial information available from the BSE.

The index of CG used in this study was constructed by assigning one point for each principle of non-compliance and zero for each principle of compliance. The BSE Code of CG has a total of 19 principles and 51 recommendations. Thus, a score equal to 51 shows a full non-compliance with the BSE Code of CG.

It is important to mention that this research is in line with previous works by assigning equal weight (1 point for non compliance) without making distinction in compliance with different recommendations.

V. Data analysis

Table 2 below shows the descriptive statistics of the Index of CG in 2010 and 2011.

Table 2. Descriptive statistics of the CG Index

Index	2010	2011
Mean	13.17	10.29
Minimum	3	34
Maximum	3	34
Count	30	17

As we can observe from Table 2 the index has a higher mean in 2010 compared to 2011, which suggests that the sampled firms have become more compliant with the BSE Code of CG over time.

Relationship between corporate governance and organizational performance: empirical analysis

In order to analyze the relationship between corporate governance and organizational performance we constructed the following model:

$$\text{CorpPerf} = \beta_0 + \beta_1 \text{Index} + \beta_2 \text{BoardSize} + \beta_3 \text{BoardDuality} + \beta_4 \text{GenderDiversity} + \varepsilon$$

Besides using the CG index as an explanatory variable we included in our model, based on previous studies other variables such as: board size (number of members in the board of directors), Board

duality (dummy variable with the value of 1 if the chairman of the board is also the CEO and 0 otherwise) and gender diversity (number of women on the board).

As a dependent variable we used the performance of the firm. The studies that examine the impact of board characteristics on organizational performance used a variety of financial measures: Tobin's Q or its proxy (Weir et al., 2002; Kiel and Nicholson, 2003; Dwivedi and Jain, 2005), return on investment (Boyd, 1995; Adjaoud, et al., 2007), return on assets (Zajac & Westphal, 1996; Shrader, et al., 1997; Kiel & Nicholson, 2003; Carter et al., 2003), return on equity (Bhagat and Black, 1999; Adjaoud et al., 2007), stock returns (Bhagat and Black, 1999), earnings per share (Adjaoud et al., 2007) and economic value added (Adjaoud et al., 2007).

In our present study we used as performance measures of the firm two variables: ROA (return on assets) and ROE (return on equity). We decided to use ROA as one illustration of organizational performance for the following reasons:

- ROA is directly related to management's ability to efficiently utilise the assets, which ultimately belong to shareholders. A lower return on assets will indicate inefficiency.
- ROA is significant in explaining Tobin's Q and the firm value (Carter et al., 2003).

Table 3 below shows the results of the initial analysis.

Table 3. Regression estimates

Explanatory variables	Model 1 – Dependent variable ROA	Model 2 – Dependent variable ROE
Index	-0.003	-0.008
	(-1.02)*	(-2.216)**
lnBoard size	-0.112	-0.158
	(-1.912)*	(-1.677)*
Board duality	0.018	-0.86
	(0.626)	(-1.828)*
Gender diversity	0.001	0.013
	(0.057)	(0.444)
R-Squared	0.374	0.689

* and **: significant at 10% and 5% level; t-statistic in brackets. We used nalural logarithm of Board Size as in previous studies which show that the relarionship between board size and firm performance is convex rather than linear (Yermak, 1995; Guest, 2009)

As table 3 shows, the Index is significant and negatively correlated with ROE and ROA. This results are in line with previous findings which mean that a higher compliance with the CG Code will have as a result an increase in investors' confidence which in turn will have a positive impact on firm performance.

Regarding the other explanatory variables, we can observe that the variable board size is negatively correlated with the organizational performance and significant 10% for both models. The negative correlation means that smaller boards are associated with higher organizational performance. The board duality is significant having a negative impact on firm performance only when ROE is used as a dependent variable, this means that splitting the titles of chairman and CEO will lead to better performance in the future.

Table 4 below, shows the regression results using as a dependent variable the CG index. The only variable that appear to have a significant impact on the degree of compliance is the board size. This means that smaller board are associated with a lower degree of compliance with the BVB Corporate Governance Code.

Table 4. OLS regression of the Index on its explanatory variables

Explanatory variables	**Dependent variable - Index**
Board size	-2.268
	(-2.195)**
Board duality	2.489
	(0.703)
Gender diversity	0.088
	(0.038)
% Non-executives	0.005
	(0.043)
R-Squared	0.194

* and **: significant at 10% and 5% level; t-statistic in brackets.

VI. Conclusions

In this paper we have constructed an Index based on the level of non-compliance with the Bucharest Stock Exchange Corporate Governance Code of the tier I, II and III listed companies. We have studied whether compliance matters for organizational performance using accounting

measures such as ROA and ROE as means of quantifying firms' performance. We found that there is a significant link between compliance and both measures used to quantify performance. We also showed that the degree of compliance with the CG code is linked with the size of the board of directors.

Acknowledgements

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MODELS FOR OPTIMIZATION OF TRAINING THE UNEMPLOYED

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ABSTRACT. Active Labor Market Policy - including measures such as professional training, job search assistance, wage subsidies on the private sector etc. - belongs to Public Policy which aims to prevent and reduce unemployment. Keeping in mind the negative consequences of the unemployment and the importance for each individual to be able to work, to have a job, we should notice that one of the major problems faced by the national institutions from our country and abroad is the lack of an optimal assignment of the unemployed to professional training programs while taking into account the labor market demand. Therefore, different economic problems concerning the assignment of the persons to attend a professional training program under the restriction of a specified labor market demand can be found in real life situations. The present paper consists of identifying and analyzing two such types of problems that arise and which are solved in practice intuitively.

Key words: *labor force, unemployment, skills, Active Employment Policy*

JEL Classification: J24, J64, J68

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1. Introduction

Starting from the premise that the development of a country, the improvement of people's material and moral well-being, their freedom and happiness depends on work, the problem of employment and unemployment constitutes one of the major interests of macroeconomics. Achieving a high level of employment needs to be one of the priority objectives of the governments' and labor unions' policies of any country. The problem of labor force employment is extremely difficult if we have to take into consideration the fact that each individual has to be employed, in order to be able to ensure the vital elements for his/her private and socio-professional life.

Unemployment is nowadays one of the malfunctions that affect, to different extent, all countries. A high level of unemployment represents both an economical and a social problem. From the economics perspective, unemployment is a waste of precious resources, leading to the diminishing of production and incomes. From a social point of view, it is the cause of deep suffering, regarding the fact that the unemployed struggle to survive despite their low incomes.

The Great Recession started in the US but soon it affected the entire world economy. In Figure 1, we present the percentage change in the unemployment rate in EU countries, Japan and US during the time span 2007-2011.

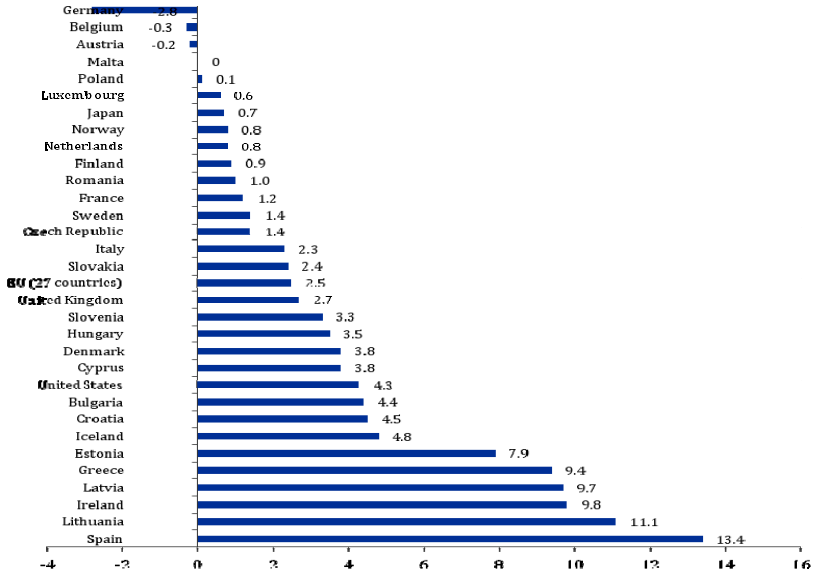

Figure 1. Change in unemployment rate between 2007-2011 (%)
Source: Eurostat, http://epp.eurostat.ec.europa.eu.

We may observe (Figure 1) that the unemployment rate registered the highest increase in Spain (+13.4 %), Lithuania (+11.1 %), Ireland (+9.8), Greece (+9.4), while in three countries (Germany, Belgium, Austria) the unemployment rate registered a slight decrease. During the time span 2007-2011, in US the unemployment rate increases by 4.3 %. According to Schmitt (2011), one possible reason for these differences in unemployment rate is represented by the size of the negative demand shock which might have varied across these economies. For example, Spain could have suffered a larger negative demand shock than the United States, which in turn experienced a worse demand shock than most of the rest of the countries (Schmitt, 2011, p. 2). Another reason could be the measures (monetary, fiscal, active policy) that each country adopted to tackle unemployment. Nevertheless, Junankar (2011) mentioned that "after a short period many Governments were no longer willing to continue the crisis measures of expansionary fiscal policies, and began to cut back on government expenditures and began to worry more about government budget deficits rather than the state of the labour market" (Junankar, 2011, p. 4).

But when we talk about unemployment, we should take into consideration the long-term unemployment, because it is a consequence of the growth of the unemployment rate. The percentage change in the long-term unemployment rate during the time span 2007-2011 is presented in the Figure 2.

The EU Member States have shown distinct patterns regarding unemployment. In Spain, Ireland and Latvia the long-term unemployment rate has increased more than 7 percentage points over the last four years, while in Germany this rate has decreased by more than 2 percentage points. Long-term unemployment has implications both in what regards the professional integration that becomes more and more difficult as time passed and the antisocial manifestations that this phenomenon may generate. According to Janunkar (2011), the long term unemployed not only lose their skills, they lose motivation, they fall ill, so the human capital begins to depreciate. The most affected population categories are the persons over 45 years, the youngsters and the persons with a low level of education. When the lack of the work place appears at a young age, mostly all careers of those involved are affected, because the probability to continue to remain unemployed increases in the future. For example, in a study conducted by the Economic Council of the Labour

Movement it is mentioned that the young Danish workers, who were jobless for at least 10 months in 1994, 15 years later earned 14 % less - or about $ 10,000 less/year than those who were employed as young adults and their probability to be unemployed was almost double compared to other people (Aspect mentioned in Schuman, 2012).

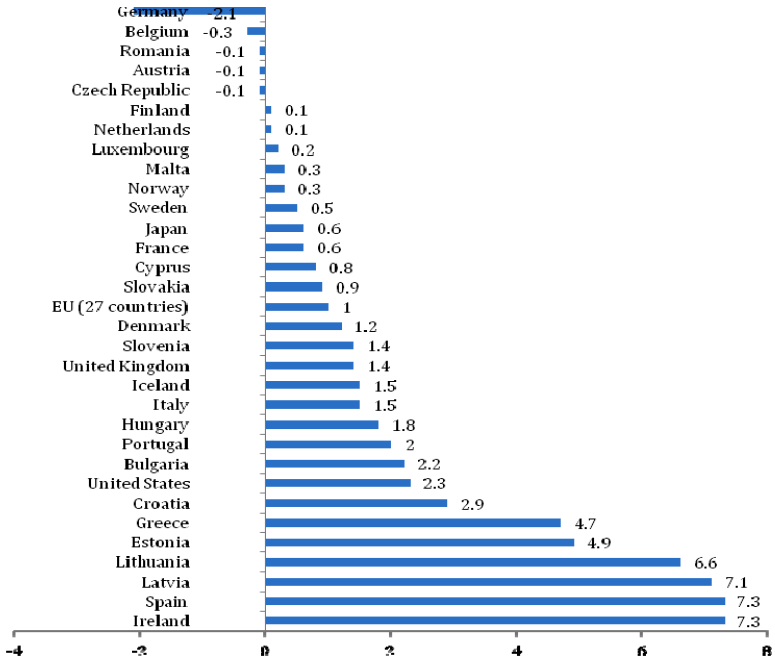

Figure 2. Change in long-term unemployment rate between 2007-2011 (%)
Source: Eurostat, http://epp.eurostat.ec.europa.eu.

During the Great Recession, the youth unemployment rate was almost double (or more) in 2011 compared to 2007 in countries such as: Spain (46.4 % in 20011 - 18.2 in 2007); Lithuania (32.9 % in 20011 -8.2 in 2007); Greece (44.4 % in 20011 -22.9 in 2007); US (17.3 % in 20011 - 10.5 in 2007) (Figure 3).

The high youth unemployment rate can have both economic consequences (the most creative human resources are wasted) and social consequences (the youngster's behavior towards work is negatively affected). Among the factors that affect the youth unemployment rate is the poor correlation that exists between the labor demand and the

educational and training system offers. In many countries, the educational system does not prepare the students for the labor market. Sometimes, students choose courses of study that are mismatched with the needs of the economy, because of two reasons: one - because of their personal choice, which is usually not made considering market needs and second - because of the offer of our educational system (Schuman, 2012).

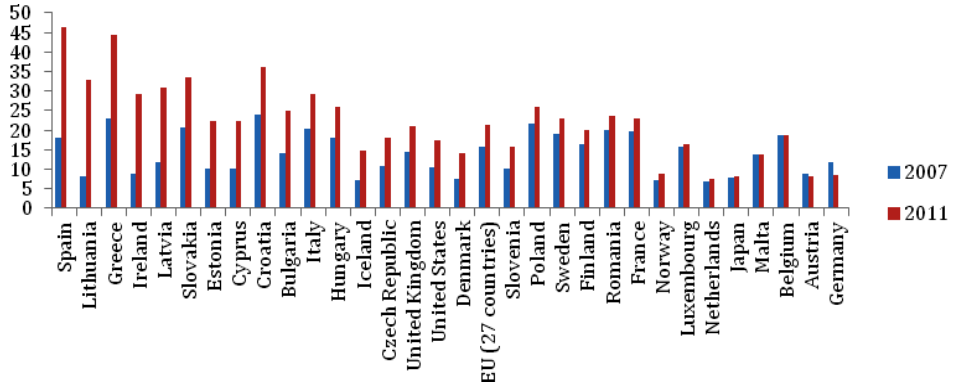

Figure 3. Youth Unemployment Rate in 2007 and 2011 (%)
Source: Eurostat, http://epp.eurostat.ec.europa.eu.

Keeping in mind the negative consequences of the unemployment and the importance for each individual to be able to work and have a job, we should notice the necessity to adopt active measures to help the unemployed and the inactive people to find a work place. The main purpose of the active measures is to prevent and reduce unemployment. But if labor demand is weak and few jobs are available, active policies may be less effective (Nie and Struby, 2011).

In many European countries (Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Spain, Sweden, United Kingdom etc.) important studies have been conducted regarding the efficiency of the active measures (Zweimuller and Winter-Ebmer, 1992; Lechner, 1999; Winter-Ebmer, 2001; Kluve, Lehmann and Schmidt, 2004; Kluve, 2006; Plesca and Smith, 2006; Nie and Struby, 2011 etc.). The focus of these studies has been on the short and long-term employment effects of the active measures for the unemployed.

As far as *information and professional counseling, and work mediation courses are concerned,* some researchers (Fougere, Pradel and Roger, 2005) consider that these have a *positive impact upon the rate of leaving unemployment,* especially in the case of poorly qualified or low qualification individuals.

According to some authors (Zhang, 2003; Cockx and Gbel, 2005), active measures that aim at *stimulating employment by subvention of work places* contributes to a *faster insertion on the job market of the unemployed* and *to the extension of the duration of employment.*

As far as the *efficiency of professional training courses* is concerned, the opinions vary. Thus some researchers consider that these courses contribute *to the improvement of occupation perspectives* (Winter-Ebmer, 2001; Zhang, 2003; Fitzenberger and Speckesser, 2005; Kluve, Lehmann and Schmidt, 2004), *to work place stability,* (Zweimuller and Winter-Ebmer, 1992), *to the improvement of the quality and efficiency of matching the unemployed (labor supply) with employers (labor demand)* (Nie and Struby, 2011), *to an increase of employment probabilities and incomes* (Heckman, Lanonde, Smith, 1999; Lechner, Miguel and Wunsch, 2005). Others consider that these courses *extend the duration of unemployment,* especially with men (Weber, Hofer 2003; Bolvig, Jensen and Rosholm 2003) and they *have no positive effects in the first years following attendance* (Lechner, 1999).

The aim of these professional training courses also varies depending on the policy of a country/area. So, if we compare the aim of professional training courses in the USA to the ones in the EU, we find that the professional training courses in the USA are mainly aiming at *an increase of productivity and personal incomes,* while in European countries their target is *to prevent or reduce unemployment among low qualification workers with a view to increase the chances of employment rather than income* (Andren, Andren, 2002). Keeping in mind the importance of well-qualified persons, we should notice that one of the major problems faced by the national institutions from our country and from broad is the lack of an optimal assignment of the unemployed to professional training programs taking into account the labor market demand. Therefore, different economic problems concerning the assignment of the persons to attend a professional training program under the restriction of a specified labor market demand can be found in real life situations. The present paper consists in identifying and analyzing two such types of problems that arise and which are solved in practice intuitively.

2. Material and Methods

For the purpose of this analysis we used two types of problems. Both problems deal with the question how to assign *N* unemployed to *M* professional training courses in the best possible way, i.e. to select suitable persons for different professional training courses taking into account the efficiency of each course (defined from the point of view of finding a job by the unemployed after graduating it) and the score that each unemployed has if he/she attends it (this score was calculated based on historical data about each unemployed person taking into account his/her education or professional experience).

Problem I. In the first problem we assume that in the same period of time there are organized different professional training programs (PTPs) for the unemployed persons. The problem that arises is how to assign the registered unemployed persons to the PTPs, based on each person's score, such that the following restrictions to be fulfilled:

i) all unemployed persons to attend the PTPs (i.e. the case when the maximum number of the persons that can attend the PTPs is bigger than the total number of the registered unemployed persons which need to attend the courses);
ii) each unemployed person to attend exactly one PTP;
iii) the assignment of the unemployed persons to a PTP to be done such that to maximize the minimum score of the assignments;
iv) the efficiency of the PTP for which the minimum score is reached to be as small as possible and to be reached as few times as possible. Let us denote by (AEP_1) this first concrete economic problem.

Problem II. In the second problem we work under the hypothesis that restriction i) of the first problem is not fulfilled, i.e. the case when the maximum number of the persons that can attend the PTPs is smaller than the total number of the registered unemployed persons which need to attend the courses, while the above restrictions ii), iii) and iv) occur.

Let us denote by *(AEP_2)* this second concrete economic problem.

In order to find the optimal solution of each studied problem, we propose an algorithm for solving it, highlighted by different examples.

In what follows, let us denote by:

– m the number of the total PTPs identified by the variable i, $i \in \{1,..., m\}$. Let I = $\{1,..., m\}$.
– e_i, $i \in I$, the efficiency of the PTP i;
– n, the total number of the unemployed persons that need to attend the PTPs. Let $J = \{1,..., n\}$.
– a_i, $i \in I$, the maximum number of the persons that can participate to the PTP i, $i \in I$,
– r_{ij}, $i \in I$, $j \in J$, the score corresponding to each unemployed person j if attends the PTP i. Let $R \in \mathcal{M}_{m\times n}(\mathbb{R}_+^*)$ be the matrix which elements represent the scores r_{ii};
– y_{ij}, $i \in I$, $j \in J$, the binary variable having the significance $y_{ij} = 1$ if the unemployed person j will participate to the course i and $y_{ij} = 0$ otherwise.

3. The Study of the Problem (AEP$_1$)

Within the restrictions of our practical problem the values of the efficiencies of the PTPs does not interfere. It interferes just the arrangement of the efficiency of one PTP in relation to the other PTPs. Therefore, we assume that the arrangement of the PTPs was done in a descending order of their efficiency, i.e. $e_i \geq e_{i+1}$, $\forall\, i \in I$.

Let $\mathcal{Y}$ be the set of matrices $Y = [y_{ij}] \in M_{m\times n}(\mathbb{R})$ which fulfill the following conditions:

$$y_{ij} \in \{0,1\},\ \forall\, i \in I, \forall\, j \in J; \tag{1}$$

$$\sum_{i\in I} y_{ij} = 1,\ \forall\, j \in J; \tag{2}$$

$$\sum_{j\in J} y_{ij} \leq a_i,\ \forall\, i \in I. \tag{3}$$

Let $f = (f_1, f_2, f_3) : \mathcal{Y} \to \mathbb{R}^3$ be the function given by: $\forall Y \in \mathcal{Y}$,

$$f_1(Y) = \min\left\{r_{ij} \,|\, i \in I,\ j \in J,\ y_{ij} = 1\right\} = \min\left\{r_{ij}y_{ij} \,|\, i \in I,\ j \in J\right\}, \tag{4}$$

$$f_2(Y) = \min\left\{i \in I \,|\, \exists\, j \in J \quad \text{such that} \quad r_{ij}y_{ij} = f_1(Y)\right\}, \tag{5}$$

$$f_3(Y) = \sum_{(i,j)\in I\times J;\, r_{ij}y_{ij}=f_1(Y);\, i\geq f_2(Y)} y_{ij} = card\left\{y_{ij} \,|\, i \in I,\ i \geq f_2(Y),\ j \in J,\ r_{ij}y_{ij} = f_1(Y)\right\} \tag{6}$$

Based on (2) and (3) we get that

$$n = \sum_{j \in J} \left(\sum_{i \in I} y_{ij} \right) = \sum_{i \in I} \sum_{j \in J} y_{ij} \leq \sum_{i \in I} a_i.$$

Hence, we work under the hypothesis that

$$\sum_{i \in I} a_i \geq n, \tag{7}$$

i.e. the total number of the persons that can attend the PTPs is greater than the total number of the registered unemployed persons which need to attend it. Condition (7) assures that $\mathcal{Y} \neq \emptyset$.

In order to give the mathematical model for the (AEP_1) problem we explain the meaning of the order relation of lexicographic type, denoted by $<_{max-max-min}$:

Let $x = (x_1, x_2, x_3)$ and $y = (y_1, y_2, y_3)$ be two elements from $\mathbb{R}^3$.

We say that $x <_{max-max-min} y$ if and only if one of the following conditions occurs:

$$\text{i) } x_1 < y_1;$$
$$\text{ii) } x_1 = y_1 \text{ and } x_2 < y_2;$$
$$\text{iii) } x_1 = y_1,\ x_2 = y_2 \text{ and } x_3 > y_3.$$

Therefore, our problem can be graphically given by the following problem:

$$(PS) \quad \begin{cases} f(Y) \to lex - \max - \max - \min, \\ Y \in \mathcal{Y}. \end{cases} \tag{8}$$

We reduce the solving of the *(PS)* problem to the solving of the following lexicographic optimization problem:

$$(PM) \quad \begin{cases} \varphi(Y) = \begin{pmatrix} f_1(Y) \\ f_2(Y) \end{pmatrix} \to lex - \max - \max, \\ Y \in \mathcal{Y}. \end{cases} \tag{9}$$

We remark that any optimal solution of the *(PM)* problem is an optimal solution of the *(PS)* problem.

Therefore, we give a technique for solving the problem *(PM).*

The idea of the proposed technique is described in the below algorithm. Its efficiency results from the fact that we pass through the scores matrix R from up to down.

In the end, an example to point out how the technique works is given.

Input

the natural numbers m, n;
the elements of natural vector $a = (a_1, \ldots, a_m)$;
the elements of natural matrix $R = [r_{ij}]$, $i \in \{1, \ldots, m\}$, $j \in \{1, \ldots, n\}$;

Output

ok — *true* if a solution exists,
$Y = [y_{ij}]$, $i \in \{1, \ldots, m\}$, $j \in \{1, \ldots, n\}$ and $F = (F_1, F_2)$ — the solution

Algorithm

$ok := false$; $sw := 0$;
for $j = 1$ to n do
  $s_j := 0$;
  for $i = 1$ to m do
    $y_{ij} := -1$;
  end for
end for
$I := \{1, ..., m\}$; $J := \{1, ..., n\}$;
while $J \neq \emptyset$ do
  $r := \min\{r_{ij} \mid i \in I, j \in J\}$;
  for $i = 1$ to m do
    if $i \in I$ then
      for $j = 1$ to n do
        if $j \in J$ then
          if $r_{ij} = r$ then
            $s_j := s_j + 1$; $r_{ij} := +\infty$;
            if $s_j = m$ then
              $y_{ij} := 1$;
              if $sw = 0$ then
                $F_1 := r_{ij}$; $F_2 := i$; $sw := 1$;
              end if
              $a_i := a_i - y_{ij}$;
              if $a_i < 1$ then $I := I \setminus \{i\}$;
              end if

$J := J \setminus \{j\}$;
else
$y_{ij} := 0$;
if $s_j = m - 1$ then
$s_j := m$;
for $k = 1$ to m do
if $k \in I$ then
if $y_{kj} = -1$ then
$y_{kj} := 1$; $r_{kj} := +\infty$; $a_k := a_k - y_{kj}$;
if $a_k = 0$ then $I := I \setminus \{k\}$;
end if
end if
end if
end for
end if
end if
end if
end if
end for
end if
end for
end while
if $I = \emptyset$ then $OK := false$;
end if
if $OK = false$ then
output: there is an error in the technique;
else
output: $Y = [y_{ij}]$ is the optimal solution of the problem (PM) and $F = (F_1, F_2)$ is the optimal value of the function φ;
end if
End Algorithm

Example. Let m = 4, n = **10,** a_1 = 4, a_2 = 3, a_3 = 2, a_4 = 3 and the matrices

$$R = R^1 = \begin{bmatrix} 2 & 4 & 6 & 8 & 1 & 3 & 5 & 7 & 4 & 8 \\ 3 & 5 & 1 & 2 & 7 & 8 & 9 & 7 & 2 & 7 \\ 8 & 1 & 5 & 4 & 8 & 6 & 2 & 3 & 4 & 6 \\ 1 & 7 & 3 & 8 & 4 & 2 & 1 & 4 & 5 & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}.$$

Iteration 1. We get $a_1 = 4$, $a_2 = 3$, $a_3 = 2$, $a_4 = 3$,

$$R^2 = \begin{bmatrix} 2 & 4 & 6 & 8 & +\infty & 3 & 5 & 7 & 4 & 8 \\ 3 & 5 & +\infty & 2 & 7 & 8 & 9 & 7 & 2 & 7 \\ 8 & +\infty & 5 & 4 & 8 & 6 & 2 & 3 & 4 & 6 \\ +\infty & 7 & 3 & 8 & 4 & 2 & +\infty & 4 & 5 & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}.$$

Iteration 2. We get $a_1 = 4$, $a_2 = 3$, $a_3 = 2$, $a_4 = 3$,

$$R^3 = \begin{bmatrix} +\infty & 4 & 6 & 8 & +\infty & 3 & 5 & 7 & 4 & 8 \\ 3 & 5 & +\infty & +\infty & 7 & 8 & 9 & 7 & +\infty & 7 \\ 8 & +\infty & 5 & 4 & 8 & 6 & +\infty & 3 & 4 & 6 \\ +\infty & 7 & 3 & 8 & 4 & +\infty & +\infty & 4 & 5 & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}.$$

Iteration 3. We get $a_1 = 4$, $a_2 = 3$, $a_3 = 1$, $a_4 = 3$,

$$R^3 = \begin{bmatrix} +\infty & 4 & 6 & 8 & +\infty & +\infty & 5 & 7 & 4 & 8 \\ +\infty & 5 & +\infty & +\infty & 7 & 8 & 9 & 7 & +\infty & 7 \\ +\infty & +\infty & 5 & 4 & 8 & 6 & +\infty & +\infty & 4 & 6 \\ +\infty & 7 & +\infty & 8 & 4 & +\infty & +\infty & 4 & 5 & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}.$$

Iteration 4. We get $a_1 = 4$, $a_2 = 3$, $a_3 = 1$, $a_4 = 2$,

$$R^4 = \begin{bmatrix} +\infty & +\infty & 6 & 8 & +\infty & +\infty & 5 & 7 & +\infty & 8 \\ +\infty & 5 & +\infty & +\infty & 7 & 8 & 9 & 7 & +\infty & 7 \\ +\infty & +\infty & 5 & +\infty & 8 & 6 & +\infty & +\infty & +\infty & 6 \\ +\infty & 7 & +\infty & 8 & +\infty & +\infty & +\infty & +\infty & +\infty & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}.$$

Iteration 5. We get $a_1 = 3$, $a_2 = 2$, $a_3 = 1$, $a_4 = 1$,

$$R^5 = \begin{bmatrix} +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & 7 & +\infty & 8 \\ +\infty & +\infty & +\infty & +\infty & 7 & 8 & +\infty & 7 & +\infty & 7 \\ +\infty & +\infty & +\infty & +\infty & 8 & 6 & +\infty & +\infty & +\infty & 6 \\ +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & +\infty & +\infty & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}.$$

Iteration 6. We get $a_1 = 3$, $a_2 = 1$, $a_3 = 1$, $a_4 = 1$,

$$R^6 = \begin{bmatrix} +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & 7 & +\infty & 8 \\ +\infty & +\infty & +\infty & +\infty & 7 & +\infty & +\infty & 7 & +\infty & 7 \\ +\infty & +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & +\infty & +\infty \\ +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & +\infty & +\infty & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}.$$

Iteration 7. We get $a_1 = 2$, $a_2 = 1$, $a_3 = 0$, $a_4 = 1$,

$$R^7 = \begin{bmatrix} +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & +\infty & +\infty & 8 \\ +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty \\ +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty \\ +\infty & +\infty & +\infty & 8 & +\infty & +\infty & +\infty & +\infty & +\infty & 8 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}.$$

Iteration 8. We get $a_1 = 0$, $a_2 = 1$, $a_3 = 0$, $a_4 = 1$,

$$R^8 = \begin{bmatrix} +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty \\ +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty \\ +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty \\ +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty & +\infty \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 1 & 1 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}.$$

Therefore, Y is the optimal solution of the problem *(PM).*

4. The Study of the Problem *(AEP_2)*

Furthermore we work under the hypothesis that

$$\sum_{i \in I} a_i < n. \tag{10}$$

Using the notations introduced above, we consider the following lexicographic optimization problem:

$$(PMR) \quad \begin{cases} \varphi_1(Y) = \begin{pmatrix} f_0(Y) \\ f_1(Y) \end{pmatrix} \to lex - \max - \max, \\ \sum_{j \in J} y_{ij} \leq a_i, \ \forall i \in I, \\ \sum_{i \in I} y_{ij} \leq 1, \ \forall j \in J, \\ y_{ij} \in \{0,1\}, \ \forall i \in I, \ \forall j \in J, \end{cases} \tag{11}$$

where

$$f_0(Y) = \sum_{i\in I}\sum_{j\in J} y_{ij} \text{ and } f_1(Y) \text{ is given by (4).}$$

Let us denote by Ω the set of feasible solutions of the problem (PMR), i.e.

$$\Omega = \left\{ Y = [y_{ij}] \in \mathcal{M}_{m\times n}(\{0,1\}) \,|\, \sum_{i\in I} y_{ij} \le 1, \forall\, j \in J; \sum_{j\in J} y_{ij} \le a_i, \forall\, i \in I \right\}. \qquad (12)$$

Based on the above, the solving of the problem (PMR) is reduced to solving the following problem:

$$(PMR_1) \quad \begin{cases} f_1(Y) \to \max, \\ \sum\limits_{j\in J} y_{ij} = a_i, \forall\, i \in I, \\ \sum\limits_{i\in I} y_{ij} \le 1, \forall\, j \in J, \\ y_{ij} \in \{0,1\}, \forall\, i \in I, \forall\, j \in J. \end{cases} \qquad (13)$$

Now, let $r_{m+1,j} := 1 + \max\{r_{ij} \,|\, i \in I,\, j \in J\}$, $a_{m+1} := n - \sum\limits_{i\in I} a_i$ and

$$\bar{I} := I \cup \{m+1\}.$$

Let us consider the problem:

$$(PMR_2) \quad \begin{cases} \min\left\{ r_{ij} y_{ij} \,|\, i \in \bar{I},\, j \in J \right\} \to \max, \\ \sum\limits_{j\in J} y_{ij} = a_i, \forall\, i \in \bar{I}, \\ \sum\limits_{i\in \bar{I}} y_{ij} = 1, \forall\, j \in J, \\ y_{ij} \in \{0,1\}, \forall\, i \in \bar{I}, \forall\, j \in J. \end{cases} \qquad (14)$$

We remark that any optimal solution of the *(PMR₂)* problem is an optimal solution of the *(PMR₁)* problem. The solving of the problem *(PMR₂)* can be done applying the technique described in the above paragraph. We just give an easiest example to point out how the proposed technique works in this case.

Example. Let $m = 4$, $n = 10$, $a_1 = 3$, $a_2 = 2$, $a_3 = 1$, $a_4 = 2$ and the matrices

$$R = R^1 = \begin{bmatrix} 2 & 4 & 6 & 8 & 1 & 3 & 5 & 7 & 4 & 8 \\ 3 & 5 & 1 & 2 & 7 & 8 & 9 & 7 & 2 & 7 \\ 8 & 1 & 5 & 4 & 8 & 6 & 2 & 3 & 4 & 6 \\ 1 & 7 & 3 & 8 & 4 & 2 & 1 & 4 & 5 & 8 \\ 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10 \end{bmatrix},$$

$$Y = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}.$$

We have that

$$\bar{Y} = \begin{bmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

and

$$Y^* = \begin{bmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}$$

5. Conclusions

In the case of the two examples mentioned above, we can consider that each unemployed person follows the course that helps him/her obtain the highest score, or in other words the course which offers the most benefit regarding obtaining a job in the near future. We consider that these models would be very useful if they would be applied by the workforce agencies in our government. This would allow

the individuals that benefit from them to improve their skills in a way that minimizes the time needed for searching and finding a new job.

To follow up on this study, we would like to further investigate what the probability of them successfully finding a job based on following the aforementioned models proposed. We would like to compare the results obtained with those that may currently exist, but we presently have no access to, regarding the potential efficiency of implementing our models.

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HUMAN RESOURCE RECRUITING TECHNIQUES IN RURAL TOURISM - CLUJ COUNTY, ROMANIA

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ABSTRACT. The aim of the paper is to explore the specific techniques used to recruit human resource in the rural tourism industry. The main objectives are: to map the current labor market in the rural tourism - Cluj County; to look for innovative practices in HR recruiting and finally to propose new directions capable to overcome the problems associated with labor market shortage in this industry. The research uses a mixed methods approach (quantitative and qualitative), confirms some of the findings of previous articles and proposes new and unique ones.

Key words: *human resources, recruiting, rural tourism, labor market.*

JEL classification: L83, M12, M54, 015, J24

1. Introduction

To recruit or to attract enough quality candidates, in sufficient numbers, with the right qualifications and skills, to encourage them and to motivate them to apply for a job in the rural tourism industry, became a real challenge as the EU labor market, or other exotic tourist destinations drains the Romanian labor market. Hotel industry and tourism are second as demand in EU for labor force, right after medical industry. Urban areas and hotel industries are like a magnet for the remaining educated and qualified workforce, and attract the remaining candidates.

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If we change the perspective in an imaginative way, the labor market in tourism seems to became an overfished sea, where huge trawlers (cruise ships, international hotel chains), with ever skilled fishermen (recruiting agencies, human resource professionals), trash the local biodiversity. The paradox is that in rural tourism the housing capacity increased from 1.6 million places-days in 2000 to 11.3 million places-days in 2011 (only in touristic and agro-touristic boarding houses), the infrastructure developed, but in the same time the human resources necessary for this development decreased, the economically active population in rural area decreasing from 5.9 million persons in 2000 to 4.3 million persons in 2011 (NIS, 2011).

Moreover, analyzing the internal regional tourism resources for North West Region the conclusion was that most of the human resources in tourism have a low level of specialization (Negruşa, Gică 2008:9). What are we doing to solve the situation? What are we doing when the labor market sustainability is in freefall? What are we doing when we want to invest in local rural tourism but we can't find enough people for that? In order to answer to these questions, in the first section of the paper we make a brief literature review, in the second part we present the materials and methods used in our research, while in the third part we discuss the results obtained. The paper ends with conclusions.

2. Literature review

One aspect studied by the paper is the *perception of work and career* in hospitality industry, especially in rural tourism. The starting point for this focus is two articles referring to the organizational identity (Baum, 2007; and Erickson and Gratton, 2007). Jobs in the hospitality industry are seen and signified in various ways: from George Orwell's extreme pessimism about certain jobs in tourism industry - "servile and without art"- (Baum, 2007), to the overoptimistic approaches of now days - "war for talents" - (Erickson and Gratton, 2007). A central part of this perception is built around the skills level and the skills blend the industry standards require. "Tourism and related service work has traditionally and widely been characterized as low skills" (Baum, 2007). These happened because the work was breakdown into simple micro-tasks heaving in mind the need for evaluation, reward and training. The problem with this approach is that in time, the need for "soft skills" grew and the focus of

human resource recruiting should have changed. The employees should know how to *manage their hearts and sell emotions* (Hochschild, 1993). In certain industries, and tourism certainly is the case, we have an increasing amount of "emotional labor", and emotional interaction with the client that have to be genuine. Flexibility is also needed due to the "eclectic nature of customer expectation which may demand very different things from the same service delivery situation". The client more often looks for a "total destination experience" (Baum et al, 1997:213). So an interesting mixture of *communication skills* with a *cultural savvy* is important in order to rise to the client expectations. Especially the rural tourism is expected to have a rich inherited cultural background. For example, traditional food and cuisine are powerful elements of local identity (Bessiere, 1998) and in this case not only the meal or the "traditional products" in themselves matters but also the story behind these products, the local history and the folklore of the region (Negruşa, Gică, 2008:13). Employees in tourism have to be not only good executers but also great storytellers.

Seasonality is another great concern for human resources because affects dramatically tourism employment leading to "seasonal employment, underemployment and unemployment" (Jolliffe and Farnsworth, 2003:312). June, July, August and September are the active months in tourism and the critical fluctuations in tourism demand reflects in critical variations in human resources demand. How businesses react to these oscillations depends on two HR strategies. "Evidence suggests that some businesses in this highly seasonal industry develop a business strategy that embraces seasonality, while others develop a strategy that challenges the seasonal nature of their work." (Jolliffe and Farnsworth, 2003: 312). According to Ribeiro and Marques, (2002) we have a problematic situation generated by seasonality. On one hand business owners constantly complain about how difficult is to recruit local workers properly able to fulfill the requirements of the job, and on the other hand, the same owners are stressing they have insufficient economic scale, hence they lack the capacity to pay higher salaries professional employees deserve and demand.

Perception of work and career, and the seasonal character of the industry, influence largely the recruiting process: recruiting sources, recruiting methods, recruiting area and employment diversity, and this are another topics followed in this paper. If we compare again recruiting with fishing, it is important to:

- *map the recruiting sources*, or the species of fish in the water (social categories of persons that can be easily identified on the labor market and have a series of common characteristics that facilitate their recruiting);
- *to match the recruiting sources with recruiting methods* or luring techniques (special tactics or recipes for accessing, informing and motivating potential candidates to apply for vacancies and for a "professional lifestyle");
- *to extend your recruiting or fishing area* if the fish is scarce, and finally to ensure employment diversity or a biodiversity.

3. Material and method

In order to define the target group of our study, we used the database of the Romanian classified tourism accommodation structures from the Ministry of Regional Development and Tourism's Website. We selected the touristic chalets, touristic boarding houses and agro-touristic boarding houses acting in rural areas, the total number being 97 units. From this group we eliminated 20 units which are located on national roads or in cities proximity because these units are not focused on rural tourism activities. Also, in the case of village Sâncraiu, 34 out of 40 accommodation units have an accommodation capacity below 10 places (they are small family businesses) and have no employees. As a result we had a potential target group of 43 units. In the end, 26 accommodation units accepted to take part at our study.

We applied a semi-structured interview, each guest house owner being questioned about: the evolution of employees' number, the employees' residence, age and competences. Also, during the discussion, we tried to identify what are the skills of the "perfect employee", the benefits they provide to their personnel and what are the methods they use to recruit their workers.

4. Results and discussions

The employee profile sketched by employers is not an impressive one. If we were to consider the scale suggested in the literature review: ("servile and without art", as described in Baum, 2007, versus "war for talents", as described in Erickson and Gratton, 2007), unfortunately the first part of the continuum seem to approach reality. The majority of traits mentioned by employers can be grouped as character traits (28 mentions in total):

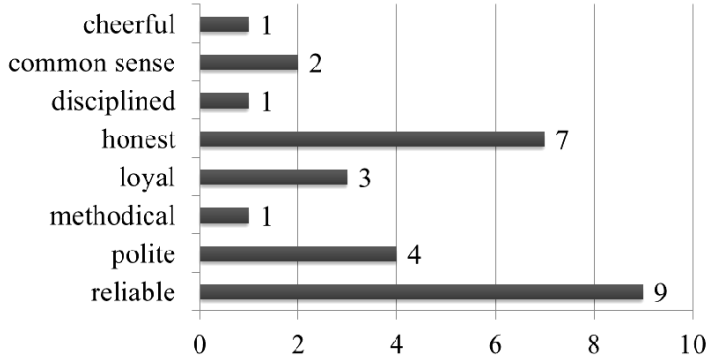

Chart 1. The character traits of employee in rural tourism industry, Cluj County (frequency of preferences)

These traits represent the backbone for a decent employee. Most of the businesses in rural tourism are a family business, employing a reduced number of persons besides the family members. So, in most of the cases, the employers do not expect the employees to be highly qualified persons, but a decent one.

Another category identified is stamina and determination (8 mentions): hard working, perseverant, dynamic. The third category regards communication skills (7 mentions) but these skills regard basic interaction with clients. Employers consider that in rural tourism is mandatory to become a "friend" of their guests, to try to know them, the communication skills being essential in this case.

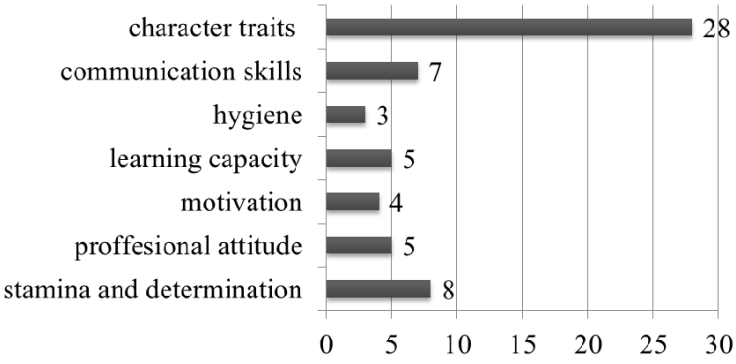

Chart 2. The employee profile in rural tourism industry, Cluj County (frequency of preferences)

Motivation is fourth one (4 mentions) and regards attachment of this kind of job and a sense of ownership. What is interesting is that motivation is seen as a responsibility of the employees, as a kind of self-motivation, not as a responsibility of the employer. This somehow doesn't sound right. Learning is the fifth category (5 mentions): to want to learn and to practice, to have relevant studies and to learn how to deliver quality. Relevant study for the majority of the employers means high school degree, not college degree. Basically they need certain diplomas because of the legal/formal requirements; other than that everything can be learned on the job. Professional attitude is the sixth category (5 mentions): professional approach to work, tries to understand the client and task oriented. Finally, hygiene is the seventh category (3 mentions).

There were no foreign language mentioned (even though the majority of the business owners want foreign clients), no cultural savvy (even though they want to promote the local culture) and no emotional intelligence (even though one of the employer owners said that "in this business we sell emotions"). Obviously, tourism is not an "industry" anymore, and the technical side (making reservations, cleaning, coking and the buildings evermore rooms) doesn't suffice. Only educated employees have what it takes to manage international, "culturally hungry" tourists.

The advantages or the incentives offered for the employees are scarce. A lot of owners (9) had no comment on this topic. For them the existence of the job was enough and the question was redundant. Some of them sustain the employees would be happier with a higher wage or with the safety of their job outside the season and they do not want other benefits. They never thought about differentiation, they never had to due to economic challenges in the rural area: high unemployment, low wages, reduced mobility and high poverty rates. Those owners that gave a thought about what they offer were not very creative. Five of them mentioned the wages (stating the obvious), twelve of them mentioned the free meals they offer for the employees (even the coffee was mentioned as a advantage), four of them offer accommodation for employees that come from distance, two of them were confident enough that their business offers pleasant working conditions, another two mentioned as an advantage the fact that they don't have to commute (being locals), one mentioned the flexible working hours, one mentioned the transport, and finally one mentioned the stability of the working place.

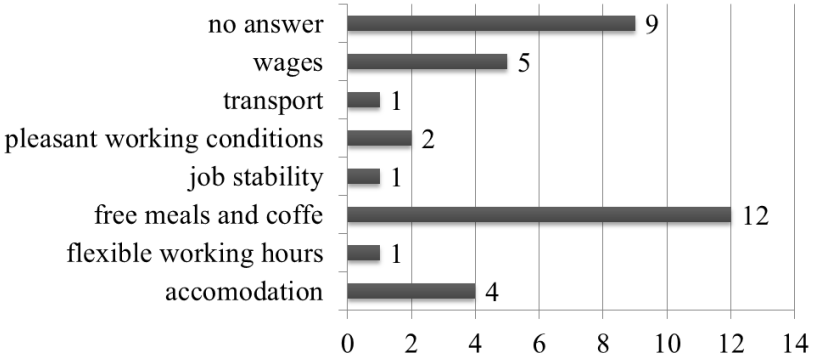

Chart 3. The incentives offered to employees in rural tourism, Cluj County (frequency of preferences)

So, no career plans, no incentives, just the basic package, no much of a bait for the candidates. To paraphrase Erickson and Gratton (2007), "What it means to work here?". The employers complained about the poor quality of the employees, but when the recurring pool is so small you have to differentiate yourself from other businesses or other industries, if not in financial terms, then in creative terms. How can you attract, motivate or expect loyalty if you don't have a "signature experience" for your employees?

Seasonality is perceived as a problem, more than in any other industry - 21 business owners said that summer (starting in June and ending in September, but mainly July and August) is the main season for business and occasionally in the winter, especially for holidays. Unfortunately this translates also in seasonal labour force, and as a consequence, professional workers in tourism choose to work in other countries where the salaries allow them to make provisions for the winter. Their strategy is not to challenge the seasonal nature of the business, but to embrace seasonality. When, in summer, the number of tourists exceeds business capacity, some of the owners, collaborate with other business owners in order to keep the tourists in the area and avoid employing new people or increasing their housing capacity. A usual practice, especially in the case of small accommodation units, is to arrange the meals with another touristic boarding house, usually a boarding house with a higher accommodation capacity or a restaurant. It is a kind of outsourcing to other "neighbor businesses". In the small accommodation units, some of the family members are dealing only with housekeeping, receiving clients and, in a

few cases, with leisure activities. Because they do not have a high number of tourist is not efficient to cook for their guest, so they prefer to allow them to cook them self or to go to other units to eat. Also, in the case of leisure activities, the accommodation units tend to rent/buy some recreation services from other boarding houses or form other businesses. That is definitely something new for the rural tourism units from Cluj County, an action that improves the services they provide to their clients (Negruşa, Cosma, Gică, 2008:80), thus we consider this collaboration as being a sign of innovation, going beyond the simple and rigid concept of competition.

Recruiting sources lack variety. As we expected, family, relatives (14 cases) and friends (13 cases) were at the top of the usual recruiting sources, leaving far behind other sources (Chart 4). There seem to be a relational demography activated in order to advantage during the recruiting process those they know. In fact some of the employers stated very clear that they employ only people they know or they have sound guaranties from them from relatives or friends. This is not the case in urban areas, where this degree of control is virtually impossible. When asked to consider special recruiting sources (those usually disadvantaged on the labor market), the majority of employers choose high school graduates (17 cases), students (13 cases), and unemployed people (11 cases), leaving far behind ethical groups, pensioners and persons with disabilities. These findings were consistent with the age profile we will present further.

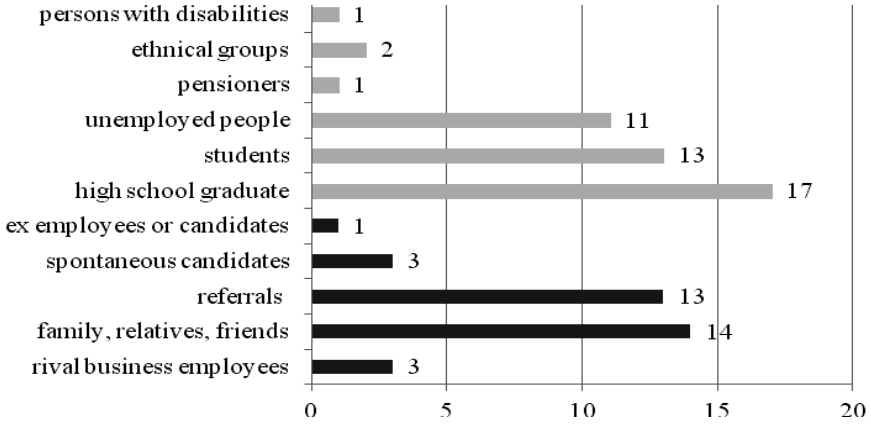

Chart 4. Recruiting sources preferred by the employers in rural tourism industry, Cluj County (frequency of preferences)
Where: special recruiting sources, and usual recruiting sources

Recruiting methods don't project a lot of imagination. The majority of business owners (20 of them or 77%) stated that the main recruiting method for them was their social network (family and friends), and usually by the word of mouth, and for 17 of them this was the unique method of recruiting (Chart 5). Few of them tried to use other methods: 3 of them used the County Employment Office (AJOFM), 2 of them used advertising in community events, 2 of them used internships, one used newspaper advertising, one used job fairs and one used poster advertising. We don't have diverse and creative recruiting methods. There were only two business owners with a broader perspective over the recruiting methods, both promoting their jobs through community events, internship and in a job fair. They also attended numerous projects on tourism and collaborate intensively with other business owners. Also, those with a university degree seem to have a more complex view over the recruiting process.

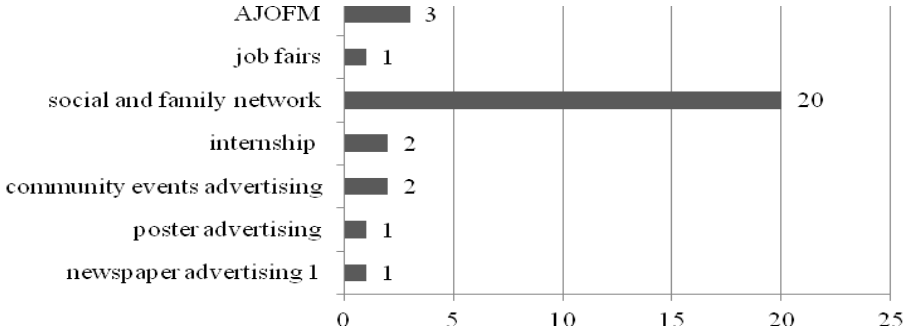

Chart 5. Recruiting methods preferred by the employers in rural tourism industry, Cluj County (frequency of preferences)

Recruiting area usually is narrow. The majority of business owners recruit their employees from the local workforce. Only 7 of them had non-local employees and only 2 of them had an active recruiting policy aimed beyond local community. The greatest distance for an employee relocation was 389 km, (Huedin - Timişoara) followed by 119 (Bălceşti - Aiud) and 59 (Mărişel - Aiud). The other four examples were closer than 5 km. "Fishing" on a poor labour market leaves you with two alternatives. The first alternative is to persist in recruiting local, but then the recruiting strategy must be elevated to another level (became the employer of choice, "grow" your own human resources, recruit from atypical recruiting sources). The

second alternative, extend your recruiting focus to other areas and involves more effort (travel, relocation costs, etc.) and networking (tourism associations, academic institutions). Whatever the chosen strategy, creative or innovative recruiting is a must in order to be prosperous. On the other side, recruiting locally has specific benefits. Being a native add value to the authenticity and keeps the flavor of the place. Natives really know the area; they can give directions and counsel tourists about their options. Unfortunately, being local, without the communication skills, is a frequent obstacle. Tourists, especially foreigners, look for unique personalities and insights in to the local culture, and the body language cannot compensate.

Employment diversity in rural tourism is a little bit lax, because the sense of community, the local history and habits are very powerful. The concept of diversity is either ambiguous, either unimportant for the majority of the employers. However we tried to probe some of the topics connected with diversity: marital status of the employee, age profile, gender and ethnicity. Regarding the *marital status,* the business owners showed no preference for married or single candidates. This kind of discrimination present in urban environment was absent here. The situation differs when we are talking about the *age profile*. The majority of employers preferred young candidates (17 cases), and only in 4 cases they regarded older candidates as prospective employees (Chart 6). These findings are consistent with other researches regarding age discrimination in tourism industry (Riach and Rich, 2006, 2007). When we analyze *gender*, we encounter a "reverse" discrimination, a lot of business owners considering that jobs in this industry are mainly for females. If we look at the gender of the current employee we see that more than 74%, or 50 employees were females and only 26%, or 18 employees, were males. Unfortunately we didn't gather data to verify another hypothesis about gender discrimination, the wage difference between women and men as suggested by Moore and Wen (2008).

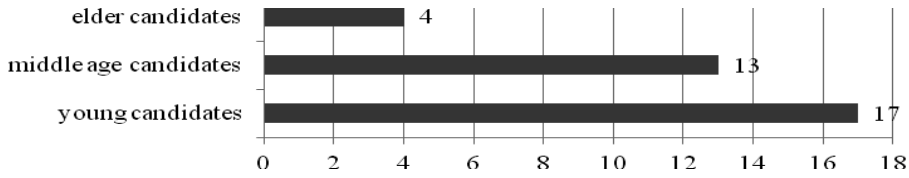

Chart 6. Age profile preferred by the employers in rural tourism industry, Cluj County (frequency of preferences)

5. Conclusions

The majority of the businesses acting in rural tourism in Cluj County are family owned businesses. Usually they hire a few locals, especially women, and they are using their social network and family to recruit them. As a result of the economic crisis and reduced mobility, the incentives for employees are scarce: meals, coffee and accommodation in a few cases. The owners of the units consider that they are helping the local community because their employees do not have other option. In conclusion, from the recruitment process perspective we cannot affirm that the accommodation units acting in rural tourism are employing innovative methods and techniques.

The employers' expectations regarding the skills of their workers are not impressive. In most of the cases, their requests represent the backbone of a decent employee. Unfortunately, even if their services are dedicated to foreign tourists also, they don't ask foreign languages, cultural savvy or emotional intelligence from their workers. As a result, they don't use sophisticated recruiting techniques, the family, the relatives and the friends being the most trusted source for employment. From another perspective, in most of the cases, the favorite candidates are young and middle age people, preferable females. In conclusion, we consider there is a low innovation activity in the recruiting process in Cluj County rural tourism.

In spite of that, analyzing the units' reaction to seasonality, we identified an innovative aspect in the HR activity. Most of the units do not afford to have permanent employees, the family members taking care about all the activities in the off season. During the peak season, they use two strategies: some of them would like to hire high school graduates or students, while others develop collaborations with other units in order to externalize some of the services, especially the meals and leisure activities. This collaboration is beneficial for both, increasing the efficiency of the units with a higher accommodation capacity and eliminating the need of more employees in the case of the small units.

Acknowledgements

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RISK INFORMATION DISCLOSURE IN BANKING SYSTEM – AN OVERVIEW OF EMPIRICAL EVIDENCES

CRISTINA ALEXANDRINA ŞTEFĂNESCU[1]

ABSTRACT. Our paper approaches "risk information disclosure" concept from a different perspective – the researchers one - presenting an overview image of what has already been studied, analyzing and discussing the trends of research on this topic, which is important to all researchers interested on it. The main reason of focusing our research in this area was the continuously increasing importance given to corporate governance and transparency, as a consequence of the most recently corporate failures and accounting scandals, not only among regulatory authorities and at companies' level, but in academic environment, too, where we have assisted at an increasingly interest in measuring the level of transparency by developing disclosure indices in this respect. Thus, our paper provides a different approach, by focusing upon the trend of research studies on risk information disclosure in a particular economic field, the banking one, thus offering a qualitative analysis of prior empirical evidences.

JEL Classification: M41, G30

Keywords: corporate governance, banking system, risk, disclosure

1. Introduction

While corporate governance disclosure was a highly debated and an increasingly challenging topic for empirical studies worldwide, being mainly focused on companies, risk information disclosure applicable to banking environment proved to be less studied, thus, letting us the possibility to enrich the academic literature and to add value in this area of research.

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Studies upon risk disclosure practices have been conducted along time either by researchers or by regulatory authorities and other representative institutions for banking area, for the purposes of assessing the level of compliance achieved by banks for enhancing transparency and even more for ensuring market discipline in banking environment that proved to be very sensitive to turbulences in the latest decades.

Basel Committee on Banking Supervision, as authority that settles the regulatory framework for credit institutions, conducted three consecutive studies in the years 1999, 2000 and 2001, with the purpose of examining bank risk disclosures as a reaction of its initiative of ensuring discipline on financial system.

Thus, one year after settling the requirements for enhancing bank transparency, with the purpose of increasing discipline in the capital markets, by encouraging credit institutions to publicly disclose both quantitative and qualitative information that will allow all financial market participants to make informed decisions regarding banks' risk management practices and financial strength, Basel Committee comes to test the level of compliance achieved by banks in this respect. Through these surveys, Basel committee was actually trying to make an impression about the reality in terms of information disclosure, on which the New Basel Capital Accord was planned to be based, for introducing its 3rd pillar related to market discipline.

The three studies published called "Public disclosures by banks: results of disclosure survey" (BIS, 2001; 2002; 2003) gave possibility of making comparisons and assessing the degree of improvements, as the research methodology used remained the same. Prior similar studies conducted with similar purposes, were performed on more restricted risk disclosure, thus not allowing any comparative analyses. The methodology applied to a sample of more than 50 credit institutions, mainly consisted of a checklist comprising 104 questions grouped into 12 disclosure categories, which were attributed either "yes", "no" or "not applicable" answer. The results of these surveys, allowed Basel Committee concluding that a modest increase in the frequency of disclosures was identified from one period to another (from 57% in 1999, to 59% in 2000, respectively 63% in 2001).

A more complex study, comprising a sample of 180 countries was conducted by The World Bank in 2006, aiming to assign a Disclosure Index to each of these, yearly since 1994. The study was focuses mainly on

assessing and diagnosing the banking sector transparency in Asia, Latin America and Europe. Based on the same approach of quantitatively measuring the level of disclosure using two checklist of disclosure items (the core set and the encouraged set) two disclosure indices were developed, their publication being aimed to raise public awareness regarding the inadequacy of accounting disclosures among banks in developing countries, contributing as well to the dialogue on corporate governance of banks. The core index comes to measure the level of disclosure related to six categories of information: loans, other earning assets, deposits, other funding, memo lines and incomes, whereas the index associated to the encouraged set of information comprises specific items related to credit risk, market risk and market discipline. An sub-index for each of these categories of information was calculated, being helpful for identifying the strength and weakness of a banking system's disclosure practices, and formulating policy responds accordingly.

Academic environment proved to be interested along time in measuring the level of risk information disclosure, too, several studies being conducted along time in this respect, the next sections of our paper being aimed to provide a comprehensive quantitative and qualitative analysis in this respect.

2. Research design and results

The objective of our paper is to provide an overview of international research focused on risk information disclosure in banking area, by identifying the main subjects of interest and research methodologies used. For achieving our goal, we selected a sample of papers, appreciated as the most relevant for academic research in our field of interest, by searching throughout the most well-known international databases,

The research methodology used for achieving our goal is therefore based on a literature review of a significant number of research papers published in various journals indexed in the most well-known international databases. Thus, our study comprises a qualitative analysis which reveals the evolution of the state of research in the area of risk disclosure issues over the time.

For performing the proposed analysis of empirical research on risk information disclosure measurement in order to offer the most accurate picture of the past and to highlight possible ideas for future

studies, firstly we searched in the most well-known international databases (including Business Source Complete, Cambridge Journals Online, Osco Host EJS, Emerald, Informaworld, IngentaConnect, ISI Web of Knowledge, ISI Web of Science, Jstor, Proquest, ScienceDirect, Springer, Wiley Online Library) for those papers that report findings on measuring risks' disclosure by developing an index in this respect. Our search was based on different combinations of the words "disclosure", "transparency", "risk information", "market discipline" and "bank/banking" on papers' title, abstract and keywords. The searches yielded a total of 50 papers, from which we retained for our analysis just 14 papers that provide evidence on risk information disclosure measurement.

The criteria selected for the analysis are related to their topic (a), the research methodology used, the sample and the period on which their analysis was performed (b), the way of developing a measurement of disclosure (c) and the categories of risk information assessed (d).

(a) Even if all papers are actually dealing with risk information disclosure as a tool for enhancing transparency and ensuring market discipline, their research topic reveals a wide variety of specific goals that were planned to be achieved. Thus, there are studies aiming to analyze the level of risk information disclosure by reference to national or international regulations, especially to Basel Committee's provisions (Linsley and Shrives, 2005; Frolov, 2006; Demirguc-Kunt, et al., 2008; Di Beneditto and Da Silva, 2008) as well as the perceptions of bank supervisors, rating agencies or external auditors on several issues related to this topic (Ariffin, et al., 2009).

Other researchers proved to be more interested in possible consequences of transparency, thus analysis the relationship between the level of risk information disclosure and various issues like feature predictions (Liu, et al., 2004; Linsley, et al. 2006), equity capital level (Wu and Bowe, 2010; Nier and Baumann, 2006), volatility of a bank's stock price (Baumann and Nier, 2004; Poshakwale and Courtis, 2005) or corporate governance structure (Htay, et al., 2011). There are papers that did not limit just at measuring the quantity of risk information, but also provide analysis upon the quality of disclosures over time (Perignon and Smith, 2010), whereas other were linked disclosure with the latest financial turbulences, emphasizing post crisis disclosure measures taken by top world banks (Asonglu, 2010).

(b) When focusing our attention on methodologies used, samples established and data sets collected, we concluded that for achieving their goal, researchers made use of basic statistical tools like descriptive analysis, correlation and regression analysis, but also applied comprehensive methods like panel data analysis and generalized least square method for samples comprising cross-countries or time-series data. Studies using data collected for intervals of time between five and ten years have been conducted in countries such as USA (Perignon and Smith, 2010; Liu, et al., 2004), Brasilia (Di Beneditto and Da Silva, 2008), Malaysia (Htay, et al., 2011) and China (Wu and Bowe, 2010), but there are also studies comprising banks from all around the world (Nier and Baumann, 2006; Baumann and Nier, 2004 (uses a sample of 32 countries and data for 1993-2000); Demirguc-Kunt, et al., 2008 (uses a sample of 32 countries and data for 1999-2003)) or from certain regions like Europe, Australia and North America (Poshakwale and Courtis, 2005).

Prior research also provides information about risk disclosure from a single year analysis performed on banking systems from UK, Canada or Japan (Linsley, et al., 2006; Frolov, 2006) or on Islamic banks from 14 countries (Ariffin, et al., 2009)

(c) As regards the categories of risk information assessed, most studies looked after the disclosure of all types of risk that a bank might have to face up, but there were also analyses focused on a particular risk, especially market risk (Perignon and Smith, 2010; Liu, et al., 2004), credit (Frolov, 2006) and liquidity risk (Asonglu, 2010). For providing more comprehensive analyses, researchers often divided risk information measurement into sub-indices thus aiming to identify the strength and weakness of banks' disclosure practices on each type of risk (Baumann and Nier, 2004; Wu and Bowe, 2010; Nier and Baumann, 2006).

(d) The main source of information for developing the disclosure scores were banks annual reports or disclosure reports, but there are also analysis performed using information from BankScope database (Baumann and Nier, 2004; Wu and Bowe, 2010; Nier and Baumann, 2006) or provided by International Monetary Fund and World Bank (Demirguc-Kunt, et al., 2008). In case of assessing the disclosure level using annual reports, the way of measuring it was often based on searching for certain risk information and deciding if these were published or not, thus allocating a "yes", "no" or "not applicable" corresponding value to

each of these, followed by the calculation of index by dividing the number of items discloses to the maxim score that can be achieved by each bank.

There are also studies that were based on a different type of content analysis, measuring disclosure by counting risk and risk management sentences in the annual reports, by searching for expressions related to risk (Linsley, et al., 2006; Asongu, 2010).

Scores developed for measuring risk disclosure were mainly un-weighted, basing on the premise that the information provided by these research papers addressed all interested uses and a weighted approach might bring benefits to a certain category. Anyway, despite subjective character of a weighted index, this approach was followed in an empirical study aimed to investigate the impact of corporate governance structure on risk information disclosure on Malaysian banking system (Htay, et al., 2011). Other researchers awarded bonus points if disclosures were prospective or were having quantitative nature (Poshakwale and Courtis, 2005).

The above analysis reveal a significant "enrichment" of risk disclosure related literature, due to a continuously increasing interest on this topic mainly because of the latest financial scandals that led to the collapse of many international recognized companies, corporate governance failures due to lack of transparency being often considered as their major cause. Also, developments in research methodology are obviously seen by far, thereby strengthening the importance given to empirical studies in the latest years.

Over the latest decades, there were various initiatives of increasing the transparency in financial system, by providing users with comprehensive details about risks that inherent in this economic environment. Thus, the first initiative of Basel Committee on Banking Supervision of enhancing transparency in banking system by increasing disclosure dated from 1998, was fairly quickly followed by the 2nd version of capital adequacy accord issued for the first time in 2004, whose 3rd pillar was aiming to institute market discipline in financial system by introducing a set of disclosure requirement.

These new regulatory requirements gave rise to a new and challenging topic of research in academic environment. Thus, many authors became interested in it and started to conduct empirical studies all over the world for answering various questions: "How improved banks in disclosing risk information as a consequence of the latest rules enforced?",

"How are banks' disclosure practices influenced by various structures of corporate governance?", "How does market discipline influence prudential risk management decisions, banks' soundness and stability?"

The first studies that came to provide answers to these questions have been developed beginning with the year 2004 and continued to evolve along time, thus the most recently ones either being connected even with corporate governance issues or providing provide analyses of post-crisis disclosure measures. A summary of papers approaching market discipline from transparency perspective, trying to measure the level of risk information disclosure, identifying and discussing its consequences on banking environment is presented in Appendix, providing details related to papers' objectives, their research design, pointing out the ways of measuring risk information disclosure and categories of risks assessed, and their main findings and conclusions.

Among the first studies there is the one of Bauman and Nier (2004), who investigated the value of bank disclosure and the risks and benefits associated with this, trying to identify a relationship between stock volatility and bank disclosure, as well as the factors that are likely to affect the volatility of a bank's stock. Their study was conducted on a set comprising close to 600 banks from thirty-one countries over the period 1993-2000. Basing on the methodology of development used for CIFAR index of transparency (Center for International Financial Analysis Research) that measures overall corporate disclosure, a new index suitable for credit institutions was constructed. It measures whether a bank discloses information on seventeen categories of disclosure related to interest rate risk, credit risk, liquidity risk, market risk, and capital in its annual accounts as represented in the BankScope database.

Their findings reveal that banks that disclose more information on key items of disclosure show lower measures of stock volatility. When trying to testing for the effect of disclosure on the volatility of equity returns for each considered factor, almost all sub-indices showed a negative coefficient and most were statistically significant, thus becoming difficult to draw firm conclusions as to which risk information disclosure might be the most important.

Two year latter, after the New Accord of Basel was issued and was under implementation in many banking system, the same authors (Nier and Bauman, 2006) extended their prior research focusing on the relationship between equity capital and the strength of market discipline, comprising the transparency of banks' risk choices or in the other words,

the level of risk information disclosure. The sample considered for this study was extended up to 729 banks from 32 different countries over the same period 1993 to 2000. The index constructed for assessing risk information disclosure is based on the same methodology like the one from their prior study. The only difference that can be observed is related to "securities by type" sub-index, which was divided into two different sub-indices (namely "detailed breakdown" and "coarse breakdown") thus, the disclosure index comprising a total of eighteen categories of risk information to be disclosed. Thus, almost the same disclosure index was used this time for examining if market discipline is effective in providing incentives for banks to limit their risk of default, by holding capital buffers against adverse outcomes in portfolio risk. Their results reveal that stronger market discipline coming from higher disclosures results in larger equity capital.

Basing on Nier and Bauman (2006) findings, a similar study (Wu and Bowe, 2010) was conducted most recently in China analyzing market discipline and its impact on equity capital level for a comprehensive sample of Chinese banks over the 1998-2008 periods. This study uses almost the same structure of the first disclosure index developed by Bauman and Nier in 2004, the only sub-index that is missing being "loans by counterparty". Unlike previous paper, in this study market discipline is captured through the impact of four sets of factors namely, market concentration, inter-bank deposits, information disclosure, and ownership structure. Thus the only common aspect that has been considered in both studies is risk information disclosure, the results achieved being consistent. Consequently banks which disclose more risk information limit their probability of default by choosing a higher capital buffer.

Closely related with the association between risk disclosure and banks' capital, Poshakwale and Courtis (2005) conducted an empirical study on a sample of 135 banks from Europe, Australia and North America from 1995 to 1999 period, aiming to identify the impact of voluntary disclosure on the cost of equity capital. Their analysis was based on testing the correlations between capital asset pricing model (CAPM) and the dividend growth model (DGM) as proxies for assessing the cost of equity capital and the level of voluntary disclosure. In this respect, a disclosure scoring model was constructed, by incorporating 29 key financial and non-financial performance measures specific for banking industry, inspired from a survey done by Price Waterhouse Coopers, and classified under six headings, one of these being related to risk

management. Their results reveal that disclosures about risk management practices have the highest impact in the sense of reduction in the cost of equity capital, this influence being greater in case of European banks.

Among the first studies focused on risk information disclosure, as a part of good corporate governance, there is the one of Linsley and Shrives (2005), aimed to analyze the requirement imposed by Basel Committee through the 3rd pillar of Basel II Accord, while also reviewing bank disclosure practices of those times within the context of risk disclosure debate. This study was actually based on the three surveys conducted by Basel Committee over 1999-2001 periods and published under the title "Public disclosures by banks: results of the [year] disclosure survey" in 2001, 2002 and respectively 2003. After providing a short comparative analysis of Basel's surveys results, emphasizing those categories of information that were the mostly disclosed (accounting and presentation policies, followed by capital structure) or the least disclosed (credit derivatives and other credit enhancements, preceded by securitization activities), paper ends concluding that the level of information disclosed, even if proved to followed an upward trend, it is still very low. The authors also have doubts upon the effectiveness of the 3rd pillar of Basel II Accord as regards disclosure requirements pointing out the fact that these are predominantly backward-looking, thus not being able to provide a full risk picture of the bank.

Basing on the debates and conclusions of their prior study and on the premise that stakeholders need to receive relevant information to be able to understand the risk profile of any financial institutions they have an interest in, the same authors (Linsley, et al., 2006) performed an empirical analysis aiming to examine risk disclosure practices within annual reports of Canadian and UK banks. Their study is based on a content analysis used for measuring the volume of disclosure risk information by counting risk and risk management sentences from banks' annual reports. Thus, they developed a disclosure coding grid where six categories of risk information (credit, market, interest rate, operational capital structure and adequacy, and risk management frameworks and policies) have been assessed through text disclosure sentence characteristics. For this purpose there were considered the following attributes: quantitative vs. qualitative, good news vs. bad news and future vs. past, various combinations of these being made. Using this specific method of measuring disclosure, authors could emphasize, basing on empirical data, the relatively little quantitative risk

information disclosed and the strong bias towards disclosing past rather than future risk-related information, which concluded their prior study. Furthermore, the volume of risk disclosure assessed using the disclosure coding grid was tested for correlation with various features of banks, such as their size, profitability or the level of risk within the bank. Their findings reveal positive association of the total quantity of risk disclosures, but also of the quantity of risk definitions and bank's size, whereas no significant association was found in case of relative profitability and risk levels.

A quite similar methodology was used by Asongu (2010) in its empirical research focused on investigating post-crisis measures adopted by twenty of top thirty-three world banks in a bid to manage liquidity risk. Thus, researchers were searching on banks' annual reports through sentences like: "liquidity risk management", "cash risk management", "liquidity management", "cash management", "liquidity risk", "Basel II pillar 3 disclosure", "Basel II", "pillar disclosure", for assessing liquidity risk management disclosure, which according to Basel II, pillar 3, should include: risk identification and assessment; risk management and mitigation; and risk monitoring and reporting.

Thus, unlike prior studies focused on risk information disclosure, this research addressed just one single type of banking risks – the liquidity one - the analysis performed being properly design in this respect, following particular contents, namely: development of a structure for managing liquidity, measurement and management of net funding requirements, management of market access and contingency planning and last but not the least criterion, the role of internal control, supervisors and public disclosure in improving liquidity management.

Their findings reveal that only 25% of sampled banks provide publicly accessible liquidity risk management information, which was perceived as a clear indication that, in the post-crisis era, many top ranking banks do not still take Basel disclosure norms seriously. Thus, their conclusions are consistent with prior evidences pointing out the main fears and shortcomings of improving disclosure, namely that could breed chances of a contagious bank run (Chen and Hassan, 2006) or even could lead to bank failure through increasing interest rate (Cordella and Yeyati, 1998). Consequently, their paper ends concluding that with respect to the World Wide Web, banks have not adopted more appealing post-crisis disclosure principles and country regulatory systems actually do not affect disclosure patterns.

Other studies focused on a particular risk include credit risk (Frolov, 2006) and market risk (Liu, et al., 2004; Perignon and Smith, 2010).

"Bank credit risk disclosure in Japan" is the title of the study conducted by Frolov (2006) in order to review the disclosure practices of Japanese credit institutions and analyze the quality of disclosed information about the banks' lending assets. For achieving its goal a content analysis of various banks' reports that are required according to national laws (disclosure reports, securities reports, mini-disclosure reports, business result briefs, company presentation meeting) has been conducted. It mainly consisted of searching for certain risk information disclosures, such as: breakdown of the total exposure by loans and other credits, by type of lending contract, by place of origination (domestic vs. abroad), by impaired/non-impaired exposures).

This study concluded that there is a large flow of financial information delivered, which is the result mandatory disclosure regime that sets up specific types of required disclosures. It also suggested some ways of improving the quality of disclosure (e.g. disclosure of exposure on credit loss, breakdowns by borrower risk category, more data on the number of stand-alone credit exposures and their distribution by size, more forward-looking indicators of credit losses such as direct loss estimates and effective interest rate on new advances).

Market risk information disclosure also was the subject of various studies conducted on US commercial banks, being focused on VaR disclosures, either by providing evidence about improvements in their quantity and quality over time (Perignon and Smith, 2010) or by testing for their ability to predict trading incomes (Liu, et al., 2004).

In order to assess the accuracy of the disclosed VaR figures and to study the trend of the level of VaR disclosure over time Perignon and Smith (2010) developed a VaR Index comprising six components (VaR characteristics, summary VaR statistics, intertemporal comparison, daily VaR figures, trading revenues and backtesting). Their analysis firstly comprised the largest ten US banks, revealing large differences in the level of disclosure across banks and an overall upward trend between 1996 and 2005 in the quantity of information released to the public. Than, the analysis was extended to 60 US, Canadian, and international banks, but limited just at data for the year 2005, leading to drastic differences in disclosure across regions: from an overall satisfactory disclosure in Europe and Canada to absolutely no VaR disclosure in China.

Whereas there has found an overall upward trend in the quantity of information released to the public, the quality of VaR disclosure showed no sign of improvement over time. Consequently, although there is a general belief that more information is better, investors, creditors, and other users of VaR information still have to concern about information accuracy. Furthermoe, Value-at-Risk disclosure proved to have the power to predict trading income variability. This is the conclusion reached by Jorion (2002) and Liu, et al. (2004) after testing for trading VaR disclosures in public financial reports.

A more comprehensive study, comprising all risk information settled by Basel Committee for enhancing transparency and disclosure was conducted on Brazilian financial system for period 2001 to 2005 with the purpose of examining the disclosure issues adopted in banks' annual reports, by analyzing the adherence level of the disclosure practices in relation to the recommendations of the Basel Committee. The level of disclosure for each credit institution was established by searching for certain risk information items through their annual reports. There have been considered for assessment the same disclosure categories, which made the objective of Basel surveys on public disclosures conducted from 1999 to 2001. the empirical results reveal that there is less interest of Brazilian financial institutions to take the attitude of harmonizing the information disclosed in the annual report with Basel recommendations on transparency and disclosure.

Other authors (Demirguc-Kunt, 2008) approached risk information disclosure topic, closely related with Basel II requirement, but from an indirect perspective. Thus their paper, which relies on assessments of compliance with the Basel core principles for effective bank supervision (BCP), was aiming to study whether better banking supervision and regulation is associated with sounder banks. It this respect, they developed a BCP compliance rating, consisting of seven different measures, each of these being related with a chapter of Basel regulations. Consequently, one of these measures addresses information disclosure, corresponding to Chapter 5 "Information requirements", which states that "Each bank must maintain adequate records that enable the supervisor to obtain a true and fair view of the financial condition of the bank of the bank, and must publish on a regular basis financial statements that fairly reflect its condition". This index of information disclosure measures the presence in

the laws and regulations of various provisions related to discipline, information disclosure, and auditing requirements. After testing for the relationship between soundness of banking system and disclosure provisions, researchers concluded that countries that require their banks to regularly and accurately report their financial data to regulators and market participants have more highly rated banks, as timely disclosure of high quality information strengthens monitoring by regulators and markets alike.

While most studies presented above were done through a content analysis of banks' annual reports, a different approach could be seen in the paper of Ariffin et al. (2009), who used as data collection technique both questionnaire and interview, and where risk information disclosure topic of research was analyzed from supervisors, external auditors and rating agencies' perspectives. Thus, starting from the premises that market discipline is generally enhanced if the activities of banks are disclosed to market participants, authors decided to look at the issue of transparency in twenty-eight Islamic banks from fourteen countries. For assessing the interviewees' opinion about transparency, a questionnaire survey was done, followed by additional interviews where appropriate. The answers received from the respondents, sow that the level of risk-reporting, particularly of qualitative information, in existing annual reports of Islamic banks, was not adequate to provide sufficient transparency, thus consistent improvements, especially on risk management positions and strategies being required as a necessity for enhancing corporate governance through corporate transparency for market participants.

Corporate governance and its association with risk information disclosure is another topic of research of great importance. The impact of corporate governance structure, determined by both board of directors (assessed through the board leadership structure, board composition, board size) and ownership (assessed through director ownership, institutional ownership and block ownership) on strategic risk information disclosure was the purpose of the empirical research conducted by Htay, et al. (2011) on a sample of twelve listed banks from Malaysian banking system from 1996 until 2005. For measuring the level of disclosure a weighted index of risk management information disclosure was developed, comprising thirty-three items grouped into eight categories of information (market risk, interest rate risk, liquidity risk, credit risk, operational risk, currency exposure of net assets, derivatives

and hedging strategy). The opinions of one hundred and thirty one accountants and fifty-one financial analysts have been taken to weigh risk management information disclosure score. By testing for statistically significant correlations between corporate governance structures and transparency of risk information in banks' annual reports, authors concluded that higher risk management information disclosure can be achieved if board leadership structure, higher proportion of independent directors, institutional ownership, block ownership, board size and lower director ownership are separated.

3. Concluding remarks

Risk information disclosure stood as a topic of research in many studies, which approached this concept various perspectives, all off these actually deriving from the general accepted idea that in the light of market disciple and as a part of good corporate governance, banking institutions are expected to be transparent as regards risk taken. In the latest years, on the background of financial instabilities that affected various regions of the world beginning with 1990's, many policy initiatives recognized the importance of market discipline in safeguarding the overall financial stabilities. Because banking activity is by its nature a risky one, these initiatives often addressed risk taken by credit institutions, being focused on enhancing their transparency. Consequently, the continuously improving regulatory environment, gave researchers a lot of possibilities to approach risk information disclosure topic, but there are many unexplored, yet.

However, the results of our study reveal a significant "enrichment" of risk disclosure related literature, due to a continuously increasing interest on this topic mainly because of the latest financial scandals that led to the collapse of many international recognized companies, corporate governance failures due to lack of transparency being often considered as their major cause. Developments in research methodology are obviously seen by far, thereby strengthening the importance given to empirical studies in the latest years.

Like any other research, we are aware of the limitations of our study that come from the sample's dimension made of a relatively small number of selected articles, considered relevant for the performed analysis. But, these limitations offer us outlooks for future research, by extending

the sample of journals and papers included in analysis, considering more specific criteria for selection than the "risk disclosures" concept as a whole. Also, the research methodology might be improved by using comprehensive statistical methods for testing the relationship between the established variables, which is the main purpose of a future study already in progress.

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Appendix

Synthesis of empirical papers dealing with risk information disclosure measurement

Author	Topic	Sample, Data, Methodology	Risk information disclosure measurement	Categories of risk information assessed	Main findings and conclusions
Linsley and Shrives (2005)	analysis of risk information disclosure basing on three Basel surveys examining bank risk disclosures	- more than 50 banks - 1999-2001 - descriptive statistics	NA	NA	NA
Perignon and Smith (2010)	analysis of VaR disclosure quantity and quality over the time	- US and international commercial banks - 1996-2005 - descriptive statistics - Likelihood test	- by developing the VaR Index comprising six components are: VaR characteristics, summary VaR statistics, intertemporal comparison, daily VaR figures, trading revenues and backtesting.	- market risk (VaR)	- there has found an overall upward trend in the quantity of information released to the public, whereas the quality of VaR disclosure shows no sign of improvement over time
Liu, et al. (2004)	analysis of relationship: VaR disclosures for trading portfolios - trading income variability prediction	- US - 1997-2002 - regressions	- by collecting trading VaR data from annual Form 10-K or quarterly Form 10-Q filings	- market risk (VaR)	- banks' trading VaRs have predictive power for trading income variability that increases with bank technical sophistication and over time
Frolov (2006)	analysis of credit risk information disclosure by reference to national regulation	- Japan - 2004 - descriptive statistics	- by searching for certain credit risk information contained in the disclosure reports and business result briefs (e.g. breakdown of the total exposure by loans and other credits, by type of lending contract, by place of origination (domestic vs abroad), by impaired/non-impaired exposures)	- credit risk	- there is a large flow of financial information delivered, which is the result mandatory disclosure regime that sets up specific types of required disclosures - there have been suggested the following ways of improving its quality: disclosure of exposure on credit loss, breakdowns by borrower risk category, more data on the number of stand-alone credit exposures and their distribution by size,

Author	Topic	Sample, Data, Methodology	Risk information disclosure measurement	Categories of risk information assessed	Main findings and conclusions
					more forward-looking indicators of credit losses such as direct loss estimates and effective interest rate on new advances
Linsley, et al. (2006)	analysis of relationship risk information disclosure - banks features	- UK, Canada - 2001 - content analysis - Mann-Whitney U-test - Pearson's rank correlation	- by counting risk and risk management sentences in the annual reports	- risk management frameworks and policies - capital structure and adequacy risk - credit risk - market risk - interest rate risk - operational risk	- positive association with the quantity of risk definitions disclosed in case of bank's size and the total quantity of risk disclosures - no significant association in case of relative profitability and risk levels
Baumann and Nier (2004)	analysis of relationship risk information disclosure - volatility of a bank's stock price	- banks from 31 countries - 1993-2000 - cross-sectional analysis - OLS method	- by developing a disclosure index using the BankScope database as root source of information	- interest risk - credit risk - liquidity risk - market risk through various accounting information (related to assets, liabilities and income statement) grouped into 17 subindices	- banks that disclose more information on key items of disclosure show lower measures of stock volatility
Wu and Bowe (2010)	analysis of relationship market discipline (including risk information disclosure) - banks equity capital level	- China - 1995-2003 - panel data analysis -correlations - regressions	- by developing a disclosure index using the BankScope database as root source of information	- interest risk - credit risk - liquidity risk through various accounting information (related to assets, liabilities and income statement) grouped into 15 subindices	- higher share of inter-bank deposits (uninsured funding) in a bank's portfolio leads the bank to operate with a larger capital buffer - banks which disclose more information limit their probability of default by choosing a higher capital buffer - higher degree of perceived government support potentially engenders moral hazard, reducing the sensitivity of changes in the bank capital buffer to levels of risk
Di Beneditto and Da Silva (2008)	analysis of risk information disclosure level by reference to BIS regulation	- Brasilia - 2001-2005 - content analysis - descriptive statistics	- by searching for certain risk information items through the annual reports	- capital structure - capital adjustment - internal models for market risk - internal and external rating - credit risk model - securitization activities - quality of assets	- there is less interest of financial institutions to take the attitude of harmonizing the information disclosed in the Annual Report with Basel recommendations on transparency and

Author	Topic	Sample, Data, Methodology	Risk information disclosure measurement	Categories of risk information assessed	Main findings and conclusions
				- credit derivatives and "credit enhancements" - derivatives - geographic and business diversification - accounting and presentation policies - other risks	disclosure
Poshak-wale and Courtis (2005)	analysis of relationship voluntary disclosure (including risk management) - cost of equity capital	- Europe, Australia and North America - 1995-1999 - descriptive statistics - correlations - regressions	- by developing a disclosure scoring incorporating 29 key financial and non-financial performance measures contained in the annual reports (there have been awarded bonus points if disclosures were prospective and quantitative nature)	- strategy - customer and markets - people and reputation - risk management - financial position - financial performance	- higher disclosure levels are associated with a reduction in cost of equity capital
Asongu (2010)	analysis of post-crisis disclosure measures (related to liquidity risk) taken into account by top world banks	- 20 of top 33 world banks - 2008 - content analysis	- by searching on the annual report through sentences like: "liquidity risk management", "cash risk management", "liquidity management", "cash management", "liquidity risk", "Basel II pillar 3 disclosure", "Basel II", "pillar disclosure"…..etc.	- liquidity risk	- only 25% of sampled banks provide publicly accessible liquidity risk management information, a clear indication that, in the post-crisis era, many top ranking banks do not still take Basel disclosure norms seriously
Htay, et al. (2011)	analysis of relationship corporate governance structure - risk information disclosure	- Malaysia - 1996-2005 - panel data analysis - generalized least square method	- by developing a weighted index of risk management information disclosure basing on data published in annual reports	- market risk - interest rate risk - liquidity risk - credit risk - operational risk - currency exposure of net assets - derivatives - hedging strategy	- higher risk management information disclosure can be achieved if board leadership structure, higher proportion of independent directors, institutional ownership, block ownership, board size and lower director ownership are separated
Ariffin, et al. (2009)	analysis of current perceptions about disclosure in Islamic banks with regard to risk	- 28 Islamic banks in 14 countries - 2008 -questionnaire survey - descriptive statistics	- by conducting a questionnaire survey made of assessing 13 disclosure items, supplemented by material from the interviews where appropriate	- credit risk - market risk - operational risk - liquidity and funding risk - capital adequacy - solvency - profitability	- Islamic banks are still lacking with regard to risk disclosure, even though transparency from Islamic banks is more pertinent than for conventional

Author	Topic	Sample, Data, Methodology	Risk information disclosure measurement	Categories of risk information assessed	Main findings and conclusions
	information	- non-parametric tests		- risk measurement and evaluation for each category of risk - risk management strategies and practicies or each category of risk - significant accounting policies - corporate governance information - other qualitative risk information	banks due to their profitsharing arrangements
Nier and Baumann (2006)	analysis of relationship market discipline (including disclosure) - the size of individual banks' capital buffers	- banks from 32 countries - 1993-2000 - panel data analysis - generalized least square method	- by developing a disclosure index using the BankScope database as root source of information	- interest risk - credit risk - liquidity risk through various accounting information (related to assets, liabilites and income statement) grouped into 18 subindices	- government safety nets result in lower capital buffers and that stronger market discipline resulting from uninsured liabilities and disclosure results in larger capital buffers - the effect of disclosure and uninsured funding is reduced when banks enjoy a high degree of government support. - while competition leads to greater risk taking incentives, market discipline is more effective in curbing these incentives in countries where competition among banks is strong.
Demirguc-Kunt, et al. (2008)	among others - analysis of relationship between information disclosure and bank soundness - (main aim: compliance with Basel Core Principles related to information provision)	- banks from 39 countries - 1993-2003 - panel data analysis - regressions	- by developing a compliance score (BCP- Basel Core Principles) based on information provided by IMF and World Bank, which includes two measures of the frequency and timeliness of disclosure	NA	- banks receive more favorable Moody's financial strength ratings in countries with better compliance with Basel Core Principles related to information provision - having many disclosure requirements but not enforcing them is detrimental to bank soundness

Source: own projection based on literature review