

# audit

## FINANCIAR

Anul XV, nr. 148 - 4/2017

4/2017

- Cercetarea și evaluarea cercetării în domeniul contabilității în România
- Accounting research in Romania



- Managementul de impresie – o perspectivă internațională
- Studiu empiric privind practicile de raportare integrată în Europa
- Formarea culturii financiare și relația acesteia cu rata de participare a IMM-urilor la piețele financiare
  - Lanțul economic digital – tehnologia informației în cadrul reglementărilor OCDE
  - Implicațiile economice ale migrației internaționale – o analiză a transferurilor de capital în România
  - Consilierea acordată prin intermediul auditului public intern
  - Analiza sensibilității pentru factorii determinanți ai evaluării investițiilor

- Impression management – an international perspective
- Empirical study regarding the integrated reporting practices in Europe
- Financial literacy training and its role in the participation ratio of the SMEs in the financial markets
- The digital economic chain – ICT in the loop of the OECD regulations
- The economic implications of international migration – an analysis of capital remittances applied to Romania
- Consulting provided by the internal public audit function
- Sensitivity analysis for the determinants of investment appraisal

Interacțiuni între cultura organizațională și controlul intern

Organizational culture and internal control

## Premiile revistei „Audit Financiar” pentru anul 2017

În luna octombrie redacția revistei „Audit Financiar” a acordat premii autorilor articolelor publicate în anul 2017.

- *Premiul special de excelență* a fost acordat doamnei conferențiar universitar doctor Raluca Gușe, de la Academia de Studii Economice din București. Premiul a fost oferit pentru implicarea deosebită în editarea revistei manifestată prin verificarea articolelor, lucrări de editare, traduceri etc., activități ce au contribuit fundamental la creșterea calității articolelor.
- *Premiul de excelență „Constantin Ionete”* a fost acordat doamnelor Ewelina Zarzycka, Justyna Dobroszek, Cristina Circa și Alina Almășan, pentru articolul „*Percepția asupra gradului de adecvare a informației furnizate de contabilitatea managerială: o investigație bazată pe teoria contingenței*”. Articolul a fost publicat în revista Audit Financiar nr. 147/2017.
- *Premiul de excelență „Alexandru Rusovici”* a fost acordat doamnei doctorand Maria-Silvia Săndulescu, de la Academia de Studii Economice din București, pentru publicarea articolului „*Managementul de impresie – o perspectivă internațională*” în revista Audit Financiar nr. 148/2017. Sperăm ca această recunoaștere să o determine pe Maria să continue activitatea de cercetare cu aceeași seriozitate.

## Awards of the “Financial Audit” journal for 2017

In October, the editorial board of the “Audit Financiar” journal granted the awards to the authors of the articles published in 2017.

- *The special award of excellence* was granted to Mrs. Raluca Gușe, Ph.D., from The Bucharest University of Economic Studies. The prize was offered for the outstanding involvement in the editing of the journal, by proof-reading, editing and translating the papers, and for performing other editorial tasks, which helped to significantly increase the quality of the journal.
- *The award of excellence “Constantin Ionete”* was granted to Mrs. Ewelina Zarzycka, Mrs. Justyna Dobroszek, Mrs. Cristina Circa and Mrs. Alina Almășan for the article “The perceived suitability of management accounting information: A contingency based investigation”. The article was published in the Audit Financiar journal, issue 147/2017.
- *The award of excellence “Alexandru Rusovici”* was granted to Mrs. Maria-Silvia Săndulescu, PhD, from The Bucharest University of Economic Studies, for the publication of the the article “Impression Management - An International Perspective” in the Audit Financiar journal, issue 148/2017. We hope this recognition will motivate Maria to continue to seriously address her research activity.

# Sumar / Content

Editorial	
• <i>Audit Financiar Journal in 2017</i> <a href="#">Click here!</a> .....	593
Ionela-Corina CHERSAN	
• <i>Accounting research in Romania: state of affairs, possible causes and deviations</i> <a href="#">Click here!</a> .....	595
Maria-Silvia SĂNDULESCU	
• <i>Impression management – an international perspective</i> <a href="#">Click here!</a> .....	605
Alina BRATU	
• <i>Empirical study regarding the integrated reporting practices in Europe</i> <a href="#">Click here!</a> .....	613
Sorin DOMNIȘORU, Radu OGARCĂ, Isabela DRAGOMIR	
• <i>Organizational culture and internal control</i> <a href="#">Click here!</a> .....	628
Seyed Mozaffar MIRBARGKAR, Pejman EBRAHIMI	
• <i>Financial Literacy Training and its Role in the Participation Ratio of the SMEs in the Financial Markets</i> <a href="#">Click here!</a> .....	644
Ramona LUPOI JURUBIȚĂ	
• <i>The digital economic chain – ICT in the loop of the OECD regulations</i> <a href="#">Click here!</a> .....	655
Maria – Monica HARALAMBIE, Bogdan Ștefan IONESCU	
• <i>The economic implications of international migration – an analysis of capital remittances applied to Romania</i> <a href="#">Click here!</a> .....	667
Vasile Cosmin NICULA	
• <i>Consulting provided by the internal public audit function</i> <a href="#">Click here!</a> .....	677
Muhammad Asif KHAN, Shujahat Haider HASHMI, Munawar HUSSAIN, Raja Muhammad Ahsan ILYAS	
• <i>Sensitivity analysis for the determinants of investment appraisal</i> <a href="#">Click here!</a> .....	686

Revistă lunară editată de  
**Camera Auditorilor Financiar  
din România**

Str. Sirenelor nr. 67-69, sector 5,  
București, OP 5, CP 83

Director științific:

prof. univ. dr. **Pavel NĂSTASE**

Director editorial:

prof. univ. dr. **Mădălina DUMITRU**

Secretar de redacție:

**Cristina RADU**

Prezentare grafică și tehnoredactare:

**Nicolae LOGIN**

*Colegiul editorial științific și colectivul  
redacțional nu își asumă  
responsabilitatea pentru conținutul  
articolelor publicate în revistă.*

Indexare în B.D.I.:

Academic Keys;

Cabell's;

Deutsche Zentralbibliothek für  
Wirtschaftswissenschaften;

DOAJ;

Ebsco;

ERIH PLUS;

Global Impact Factor;

Google Scholar;

Index Copernicus;

ProQuest;

Research Papers in Economics

(RePEc);

SCPIO;

Ulrich's

Marcă înregistrată la OSIM,  
sub nr. M2010 07387

Telefon: +4031.433.59.22;

Fax: +4031.433.59.40;

E-mail: revista@cafr.ro;

http: revista.cafr.ro;

facebook.com/revistaauditfinanciar

ISSN: 1583-5812,

ISSN on-line: 1844-8801

Tipar: SC Print Group Serv SRL

Str. Baicului nr. 82, sector 2, București

e-mail: office@printgroup.ro

## Scientific Editorial Board

Dinu AIRINEI, Ph. D. – "Al. I. Cuza" University, Iași  
Veronel AVRAM – Craiova University  
Yuriy BILAN – Szczecin University, Poland  
Sorin BRICIU – "1 Decembrie 1918" University, Alba Iulia  
Ovidiu BUNGET – Universitatea de Vest din Timișoara  
Alain BURLAUD – The National Conservatory of Arts and Crafts, Paris  
Tatiana DĂNESCU – "Petru Maior" University, Târgu Mureș  
Lilia GRIGOROI – Academy of Economic Studies of Moldova, Chișinău  
Raluca-Gina GUȘE – Bucharest University of Economic Studies  
David HILLIER – Leeds University Business School, United Kingdom  
Allan HODGSON – University of Queensland, Australia  
Emil HOROMNEA – "Alexandru Ioan Cuza" University, Iași  
Robin JARVIS – Brunel University, United Kingdom  
Maria MANOLESCU – Bucharest University of Economic Studies  
Dumitru MATIȘ – "Babeș-Bolyai" University, Cluj-Napoca  
Ion MIHĂILESCU – "Constantin Brâncoveanu" University, Pitești  
Ana MORARIU – Bucharest University of Economic Studies  
Mirela PĂUNESCU – Bucharest University of Economic Studies  
Irimie Emil POPA – "Babeș-Bolyai" University, Cluj-Napoca  
Vasile RĂILEANU – Bucharest University of Economic Studies  
Ion STANCU – Bucharest University of Economic Studies  
Donna STREET – Dayton University, USA  
Ioan TALPOȘ – West University, Timișoara  
Alexandru TUGUI – "Alexandru Ioan Cuza" University, Iași  
Eugeniu TURLĂA – Bucharest University of Economic Studies  
Iulian VĂCĂREL – Member of the Romanian Academy

All rights of this edition are reserved to the Chamber of Financial Auditors of Romania (CAFR). Reproduction, even partially, on any support, and the sale are prohibited without prior consent of the CAFR, being subjects to the stipulations of the copyright law.

### Important for Authors!

**The articles** are submitted to the editor by e-mail at: revista@cafr.ro, compulsory in MS Office Word format, in black-and-white.

**The authors** are kindly requested to comply with the following:

- the language the article is drafted in is English
- the optimal size of the article is: 7-10 pages with 2000 signs/page, spaces included;
- the article must mention the title, the research methodology used, authors' contributions, the imperfect on the accounting profession and the references;
- an Abstract is compulsory, which must be written at the 3rd person plural, presenting the subject of the research, the main problems and authors' contributions;
- 4-5 key words;
- JEL Classifications.

**Tables and graphs** are developed in black and white whit up to six shades of gray and sent also separately, if they were elaborated in MS Office Excel.

**The review** of the articles is performed by members of the Scientific Assessment Council of the „Audit Financiar” Journal, by means of the „double-blind review” method, that is, the reviewers do not know the names of the authors, nor the authors know the names of the reviewers.

Assessment criteria for articles: innovative input, topicality, importance and relevance for the subject matter; the quality of the research methodology; clarity and pertinence of the presentation and argumentation; the relevance of the bibliographic sources used; contribution made to the research in the area.

The resolution of the Scientific Assessment Council of the journal can be: acceptance; acceptance with revisions; rejection. The results of the assessments are communicated to the authors and only the articles approved by the Scientific Assessment Council are published.

**More details** can be found on our website [www.revista.cafr.ro](http://www.revista.cafr.ro), sections „Reviews” and „Manuscripts”.

**audit**  
**FINANCIAR**

4/2017

Monthly Journal published by the  
**Chamber of Financial Auditors  
of Romania**

67-69 Sirenelor Street, District 5,  
zip code 050855, Bucharest, OP 5,  
CP 83

Scientific Director:

Professor **Pavel NĂSTASE**, Ph.D.

Editorial Director:

Professor **Mădălina DUMITRU**, Ph.D.

Editorial Assistant:

**Cristina RADU**

DTP: **Nicolae LOGIN**

*The Scientific Editorial Board and  
the editorial technical team shall  
take no responsibility for the content  
of the articles published in the  
journal.*

International Databases:

Academic Keys;

Cabell's;

Deutsche Zentralbibliothek für

Wirtschaftswissenschaften;

DOAJ;

Ebsco;

ERIH PLUS;

Global Impact Factor;

Index Copernicus;

Google Scholar;

ProQuest;

Research Papers in Economics

(RePEc);

SCIPRO;

Ulrich's

OSIM Trademark no. M2010 07387

**Chamber of Financial Auditors  
of Romania**

Phone: +4031.433.59.22;

Fax: +4031.433.59.40;

E-mail: revista@cafr.ro;

http: revista.cafr.ro;

facebook.com/revistaauditfinanciar

ISSN: 1583-5812,

ISSN on-line: 1844-8801

Printing:

SC Print Group Serv SRL

Str. Baicului nr. 82, sector 2,

București

e-mail: office@printgroup.ro

# Audit Financiar Journal in 2017

**Editor-in-chief: Professor Mădălina Dumitru, PhD.**

The year 2017 brought a major change for the Audit Financiar journal: the transition from monthly to quarterly publication frequency. We made this decision to improve the quality of the articles. We continue by presenting the journal's evolution during this year.

During 2017 we indexed the journal in the following international databases (in alphabetical order):

1. Academic Resource Index
2. ACNP
3. Base Bielefeld Academic Search Engine
4. Electronic Journals Library
5. Index Copernicus
6. Open Academic Journal Index
7. Publication Forum Finland.

In addition, the journal has already been accepted for indexing in the following databases and we are waiting for the agreement to be signed within the CAFR:

1. CEEOL;

2. J-Gate.

On December 29, 2015, we applied for indexing in the Scopus database. In 2017, several steps have been taken to index the journal in this database.

We updated at least quarterly the journal's Google Scholar account to monitor quotations. At this time, the value of the journal's Hirsch index is 8 (as compared to 7, last year) and the i10 index is 6 (as compared to 5, last year). In addition, the number of quotations obtained by the journal by October 15, 2017 was 597, compared to 258 in November last year (<https://scholar.google.ro/citations?user=IZTHO3oAAAAJ&hl=ro>).

We continued to use the CrossRef services, which we started in 2016 (by assigning DOI codes to the articles), Cited by Linking, and iThenticate. According to the CrossRef report received in early October, the download status of the articles is as follows<sup>1</sup>:

Months	2017-09	2017-08	2017-07	2017-06	2017-05	2017-04	2017-03	2017-02	2017-01	2016-12	2016-11	2016-10	2016-09
Resolution Attempts	242	166	161	119	195	163	224	126	168	263	141	148	135
Resolution Successes	234	155	152	113	183	156	223	121	164	252	138	144	109

The published articles were not downloaded only from the CrossRef system, but also from the journal's

website. On average, 69 abstracts, 271 articles<sup>2</sup>, and 249 journal issues were downloaded monthly.

<sup>1</sup> All downloads of articles refer to those published between 2016 and 2017. Until January 1, 2016 the articles did not receive DOIs and were not uploaded to the CrossRef database. The number of downloads per month is not cumulative with the previous months' quotations.

<sup>2</sup> The articles were uploaded individually only for the years 2016 and 2017. For the previous 12 years, only the full journal issues are found on the website. Therefore, the largest number of downloads was recorded for articles published between 2016 and 2017.

We have made partnerships with five international conferences to increase the visibility of the journal and the number of articles received by the editorial board. The conferences are as follows:

- 6th International NCM Conferences, February 11, 2017, Dubai;
- International scientific conference “Accounting and finance – universal business languages”, Second edition in Pitești, March 17, 2017;
- International scientific conference “Accounting and the accounting profession in the century of

challenges”, Sixth edition in Chișinău, April 5-6, 2017;

- International scientific conference “Accounting and Management Information Systems”, Twelfth edition in Bucharest, June 7-8, 2017;
- International scientific conference “IFRS – Global Rules and Local Use” in Prague, October 20, 2017.

The status of the articles received and published is as follows:

**Table no. 1. Articles received and published in 2017**

Issue	Number of published articles	Of which, articles with foreign authors	Number of rejected articles
1	5	2	13
2	7	3	16
3	7	3	11
4	9	2	11
Total	28	10, representing 35,71%	51, representing 57.30%

The main causes of rejection for the articles were: a lower originality score than the one accepted by the editorial staff, a subject matter outside the scope of the journal or a rejection/negative opinion from the reviewers.

In February we applied for indexing in the Web of Knowledge database.

All the achievements in 2017 were possible due to the support that the Audit Financiar journal has received. First, the journal received the support of the CAFR. Second, the journal was supported by the authors who chose to submit articles to this publication. On the other hand, editing the Romanian version of the articles received from foreign authors would not have been possible without the team of translators: Cristina Circa, Raluca-Gina Gușe, Dragoș Manguic, Oana Preda, Ioan-Bogdan Robu. We also thank those who are part of the scientific board of the journal and who supported us with advice whenever necessary during this year. To meet the requirements of international databases, we attracted foreign members to the scientific council. In total, we have 16 members of the scientific council, of which eight are professors from foreign universities. Also, we worked on a monthly basis with the reviewers: Alina Almășan, Nicoleta Asaloș, Veronel Avram, Daniel Botez, Daniela Artemisa Calu, Vasile Cardoso, Cristina Circa, Ionela Corina Chersan, Tatiana

Dănescu, Sorin Domnișoru, Liliana Feleagă, Iuliana Georgescu, Mariana Glăvan, Cătălina Gorgan, Vasile Gorgan, Maria Grosu, Camelia Hațegan, Carmen Huian, Cristina Lidia Manea, Dragoș Manguic, Mihaela Mocanu, Marilena Mironiuc, Ana Morariu, Vasile Răileanu, Ioan-Bogdan Robu, Victoria Stanciu, Georgeta Șpan, Aurelia Ștefănescu, Alexandru Țugui.

The IT support has significantly contributed to the improvement of the results achieved during this year. Due to the functionality of the website, rapid transmission of information to databases, etc., articles are indexed correctly and quickly. For everything that went well with this publication in terms of IT support, we thank Mr. Valentin Florentin Dumitru.

We also link to the journal's IT support our expectations and hopes for the year 2018. It is necessary that the editorial staff's efforts to continue to be directed towards improving the visibility of the journal by finalizing the aforementioned actions and taking new steps in terms of indexing the journal in other international databases and catalogues, adding new functionalities, etc.

Respectfully,

Professor Mădălina Dumitru, PhD.  
Editor-in-chief of Audit Financiar Journal

---

# Accounting research in Romania: state of affairs, possible causes and deviations

---

Ionela-Corina CHERSAN,  
Alexandru Ioan Cuza University, Iași,  
E-mail: corina.chersan.macovei@gmail.com

## Abstract

*The paper aims to analyze the state of the accounting research in Romania, as compared to the other countries in Eastern Europe, as well as to identify the causes of the observed situation and its possible deviations in the research activity, respectively in the field of research evaluation. The Scimago database was used to carry out the research, which allowed the analysis of Romania's position in Eastern Europe in terms of the number of published articles, average number of article quotes and self-citations. The study of the specialized literature and the direct knowledge of some aspects specific to the Romanian academic life allowed to identify possible causes of the current situation, and also some behaviors, not always normal, generated by the enforcement of certain criteria for the occupation of didactic functions without a sufficient analysis of the Romanian realities, and even without any care to restore the traditional social role of the universities.*

**Keywords:** research evaluation, bibliometric, citations analysis, Scopus, Scimago

**JEL Classification:** M14, M21, M40

### To cite this article:

Chersan, I.C. (2017), Accounting research in Romania: state of affairs, possible causes and deviations, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 595-604,  
DOI: 10.20869/AUDITF/2017/148/595

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/595>

Received: 27.04.2017

Revised: 07.05.2017

Accepted: 08.05.2017

## Introduction

During the last decades, especially at the global level, the debate on the assessment of accounting research has gained momentum in the wider context of evaluating the impact of the research evaluation on the work of researchers in general. Given the relatively frequent changes of the minimal standards to be met in order to obtain the academic degree of university associate professor and full professor, respectively for obtaining a certificate of habilitation in Economic Sciences and Business Administration, we consider the public would be interested in a proposal to start a debate at national level about the state of the research in the mentioned fields and the effects of the research evaluation, respectively on the distortions and deviations that can occur both in the publication of papers and in the evaluation of the research. We also take into consideration the fact that, although for a faculty and for its students the teaching activity is extremely important, during the last years the research activity has become the main priority in the process of university teaching staff employment, promotion and evaluation.

Recently, many Romanian young academics, both from Romania and from abroad, have begun to be very critical about the older researches of the elderly academics, forgetting an essential fact: new research is only made after a good knowledge of the state of the existing research in the field, and until recently, the access to foreign literature was extremely limited. About 15 or 20 years ago, an attempt to do research according to the current rigors, was almost similar to keeping fire without fuel. However, some criticisms also came as a result of the repeated changes in the university associate professor and full professor employment criteria, as well as in the doctoral supervisor status reaching process (habilitation). Some people consider that current standards are too high, when compared against the standards for getting a university associate professor or full professor degree, or a doctoral supervisor degree in the not too distant past.

In fact, there is a paradox: although some of those who criticize the "Romanian academic environment for economic studies" consider themselves holders of a high research competence, yet they are also worried about their ability to meet the conditions imposed by the current Romanian legislation. On the other hand, the answer to such criticisms is not clearly formulated,

notably by not defining specific objectives at the level of the higher education institutions, at least in order to clarify the relationship between the research activity and the teaching activity and also to establish some institutional objectives that allow academics to formulate individual objectives in line with the institutional ones. At present, there is an almost exclusive, but understandable concern for the achievement of individual objectives (promotion, merit grading, etc.).

The most worrying fact seems to be that in Romania, in the context of the lack of a real debate on accounting research, and during the race for the achievement of the individual objectives (promotion or the employment of teaching or research positions, merit grades etc.), the perspective is lost over what is actually the most important thing in research, namely the creation and development of a market for ideas.

## 1. What is the market of ideas?

In several papers issued during the recent years, H.-R. Patapievici (2004, 2007, 2014) tries to explain why in Romania there is no real market for ideas, starting from the fact that there is no real debate, not only in the general field of culture, but also in the field of domain-specific culture.

The minimum conditions that an exchange of ideas needs to meet in order for a market of ideas to exist are synthesized by H.-R. Patapievici (2007) in the form of the following criteria:

1. The continuity of exchanges;
2. The objectivity of exchanges;
3. The freedom of trade;
4. The lack of predictability;
5. The existence of a critical mass.

The author's conclusion, based on these criteria, is that if the number of participants in the exchange of ideas is not high enough, then the listed criteria cannot be fulfilled neither individually, nor altogether. Moreover, the author asserts that "In our public space, disciplines do not communicate, people in a discipline refuse to talk to each other, intellectual groups hate each other, people suspect each other, prizes are conceived as prizes-counter (not prizes-for)" (Patapievici, 2007, p. 97). Unfortunately, even if these statements are not true in all situations, in some sciences, they are a sad reality. In

order to overcome this situation, one of the solutions could be to assimilate and embed ethics as an element that necessarily associates with the exercise of knowledge.

If we analyze the contemporary market of ideas in the field of Romanian accounting, we find that it is relatively weakly developed, but seriously affected by administrative decisions, which, although seeming to have the purpose to develop research, often lead to unwanted effects (the tendency to publish as much as possible and only in journals that are on the official list of administrative structures, giving up publishing for the purpose of entering into the debate of ideas, but publishing only in order to achieve individual objectives, the not always high quality of the published works, the large number of self-quotes, the “friendly” or reciprocal citations). To analyze the state of the accounting research in Romania, we studied the evolution of the local publications and quotes in the field, in comparison to the existing situation in other Eastern European countries for the 1996-2015 period.

## 2. Literature review

Bibliometric tools, were initially used primarily to manage journals collections in libraries and to assess the influence of academic research on the dynamics of science development. During the 1980s, they began to be used to evaluate research groups, so that in the early 1990s, *knowledge management* and *benchmarking*, both based on performance and productivity indicators, would be transferred to universities. Thus, the bibliometric data was seen as a scientific career management tool that allowed for a better assessment than the peer review, which was considered to be too subjective and to be supplemented, if not substituted, by data-based methods considered more objective. However, by the year 2000, most of the bibliometric analyzes were made at the level of large laboratories, universities, whole countries, while the use of bibliometric data in individual assessment was avoided. With the transition to the use of bibliometric data as a tool for evaluating researchers, negative reactions were received from many of them, as it was considered a simplistic method of quantifying research. At the same time, indicators were created which combine different bibliometric data in order to identify the best researchers (Gingras, 2016).

It is known that for more than 45 years, the Institute for Scientific Information (ISI, now part of Thomson Reuters) was the one to produce the only bibliographic database available to carry out statistical processing based on bibliometric indicators. In other words, until 2004, when the Scopus database appeared (owned by Elsevier, considered by the Financial Times the largest international editorial group that publishes scientific journals), the Thomson databases, now compiled as Web of Science, were the major source of bibliometric data (Archambault et al., 2009). However, although most of the scientometric studies have been conducted over time on the basis of ISI's bibliometric data, in recent years Scopus-based studies have begun to multiply (Gingras, 2016). But with the emergence of the Scopus database, a problem arose about the comparability and stability of statistics produced on these data sources, especially when comparing countries or institutions.

Obviously, the debate about the two databases and information on the quantity and quality of the works found in them has become more prominent. More and more comparative studies have been launched between the available databases, besides the Web of Science and Scopus, Google Scholar or other specialized databases such as PubMed. Database research has covered various areas such as: database characteristics (Falagas, Pitsouni, Malietzis and Pappas, 2008), quote rates and H-index (Bar-Ilan, 2008, Belew, 2005, Ball and Tunger, 2006). Studies have shown a high level of similarity between Web of Science and Scopus (Norris and Oppenheim, 2007), which is not surprising, given that 7434 journals, that is, 54% of Scopus and 84% of the Web of Science are indexed in both databases (Gavel & Iselid, 2008).

Among the bibliometric indicators used to assess the quality of scientific research, the H-index and the impact factor are to be mentioned. In this context, we recall that the notion of H-index was introduced in the process of assessing scientific activity in the mid-2000s by physicist Jorge E. Hirsch. This index is equal to the number  $n$  of articles that a researcher has published and which have obtained at least  $n$  citations each since the publication. Hence, the H-index is not a measure of quantity, nor a measure of quality, but a combination of the two. With regard to the impact factor, an important criticism is that it includes auto-citations in the total citations of an article, so that the authors were asked to quote articles from the journals they wanted to publish. Web of Science

has tried to combat misconduct, such as “exchange” quotes among journals, by publishing “blacklists” of journals that seem to have manipulated their impact factor. Moreover, it is accepted that the impact factor remains an indicator of the value of the journal and not of the articles. Under these circumstances, an article published in a high impact journal may never be quoted (Gingras, 2016).

In recent years, assessments based on bibliometric indicators have become increasingly criticized. The prestigious Nature journal argues in an editorial in July 2016 that “these indicators are reductive and can be dangerous” (Nature, 2016). The target indicator is the impact factor of a journal, for example, the average number of citations (for each published article) for published works over a two-year period. Thus, it is considered, for example, that it leads to the underestimation of some disciplines (accounting may be included here), which are not central to research and where the low quotation rates are a characteristic. Although the shortcomings in the use of these indicators have always been well known, they have not prevented researchers, funders and university decision-makers, as well as research assessment bodies from using and sometimes promoting them excessive. Surely fair arguments can be found to legitimize the use of bibliometric indicators to analyze research performance, but their use as managerial objectives can leave universities feeling they are being asked to change their behavior to meet often arbitrary goals (Nature, 2016).

### 3. Research methodology

In order to analyze the possibility of exchanging ideas in the field of accounting, in Romania, we started from the database of the SCImago research group of the Higher Research Council (CSIC) of the Universities of Granada, Extremadura, Carlos III (Madrid) and Alcalá de Henares, available at <http://www.scimagojr.com/journalrank.php>. The indicators developed by this group indicate the visibility of the journals contained in the Scopus database since 1996. The method of calculating the indicators on the basis of which the study, which served to develop this database, as well as its motivation The basis for their calculation is broadly explained in an article published by Guerrero-Botea and Moya-Anegón (2012). The database allows grouping of journals by 27 thematic areas, 313 categories, 8 geographical regions and 239 countries (SCImago, 2007).

Our study aims at a comparative analysis especially in Eastern Europe of indicators provided by the aforementioned data base for Business, Management and Accounting in order to highlight the position of Romania and to identify possible causes and explanations of the accounting research situation in our country.

### 4. Research results

By means of our analysis, we wanted to highlight the extent to which the articles published in the Romanian journals indexed in the Scopus database (in the field of “Business, Management and Accounting”) participate, in particular through the number of citations (as a quality indicator) to the ideas market in the mentioned field. The study focused primarily on the countries of Eastern Europe (as was done by the creators of the database), assuming that the level of development of the ideas market was negatively influenced by the communist regime under which these countries have been operating for half a century. The period under review was 1996-2015.

Thus, as shown in **Table no. 1**, Romania occupies an honorable 3<sup>rd</sup> place, out of the 23 countries of Eastern Europe from which articles in the analyzed field have been published and are indexed in the Scopus database.

Viewed only from the perspective of the number of articles, the situation may seem satisfactory. Unfortunately, an analysis of citations for these articles makes things less pleasant. Thus, if we analyze the total number of citations, Romania drops to 8<sup>th</sup>, and from the point of view of the average number of citations per article, the place occupied by Romania is 18. Also, an element indicating a habit not very appreciated nor very “healthy” from the perspective of evaluating the quality of publications, is the high level of self-citations, Romania being ranked 4<sup>th</sup> in this respect.

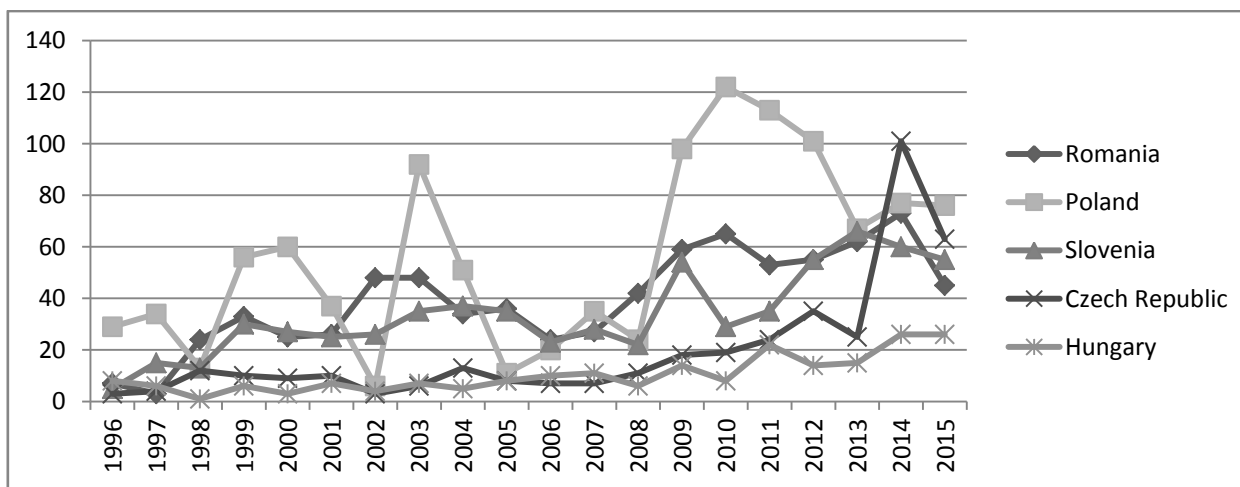
The comparative situation of the number of articles published by the first five Eastern European countries for which we found records each year is presented in **Figure no. 1**. Although Russia is included among the Eastern European countries, we exclude this country from our analysis, on the one hand, because size makes it hardly comparable to other countries and, on the other hand, because it is geographically not exclusively Europe.

**Table no. 1. East-European countries ranking based on the number of published papers during 1996-2015 which have been indexed by the Scopus database (in the field of "Business, Management and Accounting")**

Rank	Country	Documents	Citations	Self-citations	Citations per article
1	Russian Federation	2,495	1,498	227	0.6
2	Poland	1,122	1,849	325	1.65
3	Romania	789	629	277	0.8
4	Slovenia	675	2,741	549	4.06
5	Czech Republic	388	759	259	1.96
6	Bulgaria	260	210	24	0.81
7	Lithuania	258	1,870	954	7.25
8	Hungary	207	1,678	135	8.11
9	Croatia	188	730	102	3.88
10	Estonia	150	639	152	4.26
11	Serbia	131	181	42	1.38
12	Slovakia	126	359	87	2.85
13	Latvia	100	236	41	2.36
14	Ukraine	99	189	26	1.91
15	Macedonia	36	66	5	1.83
16	Belarus	22	42	9	1.91
17	Bosnia and Herzegovina	20	15	0	0.75
18	Georgia	16	186	0	11.63
19	Albania	14	22	2	1.57
20	Azerbaijan	13	8	1	0.62
21	Armenia	7	3	0	0.43
22	Montenegro	3	8	0	2.67
23	Moldova	3	0	0	0

Source: <http://www.scimagojr.com/countryrank.php?category=1401&area=1400&region=Eastern%20Europe>

**Figure no. 1. The evolution of the papers number published by the top 5 countries in Eastern Europe during 1996-2015**



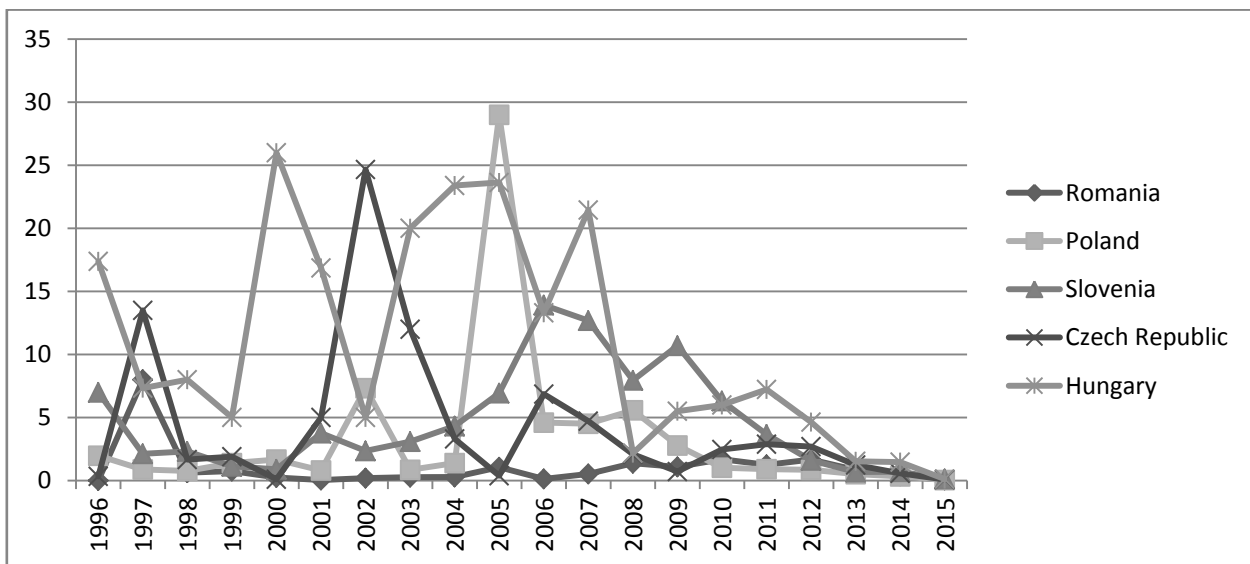
Source: The author, 2017

There can be noticed a significant increase in the number of articles published in Romania during the 2008-2014 period, one of the explanations being the doctoral programs financed by projects of type POSDRU (Sectorial Operational Program for Human Resources Development) 2007-2013, a fact highlighted by the previous research (Chersan and Mironiuc, 2015), and somehow confirmed by the decrease in the number of articles published during 2015.

From the perspective of the average number of citations per article, the comparative situation for the five countries is presented in Figure 2. We find that for Romania the situation of quotes is constantly worrying, confirming either the lack of concern for the articles published by the local researchers, their poor quality, or

the lack of accessibility to such research, all of which lead to the conclusion that there is no market for ideas in the field in question. If for all other four countries there is a large number of citations in some years, for Romania, the highest average number of citations per item is 1.69, if we exclude the average of eight quotes registered in 1997. Also, Romania ranks last as the average number of citations, with 1.02 citations/article, while the next ranked average 3.36 citations/article, and the first ranked, Hungary, has an average of 10.8 citations/article. However, in order for the situation of Romania not to be very dramatic, we note that the average number of citations for articles published in Eastern European journals is 2.87 citations/article, compared to 8.47 citations/article in the Western Europe.

**Figure no. 2. Evolution of the average number of quotes per paper in the top 5 East European countries during 1996-2015**



Source: The author, 2017

Although it is not among the top 5 ranking countries throughout the time, Georgia, Lithuania, Estonia and Croatia have an over the average number of article citations in Eastern Europe.

Gingras (2016) shows that the number of citations of an article depends on the number of references it contains. In other words, the more references one article contains, the more chances of being quoted are growing. On the

other hand, it is obvious that the number of references per article has seen an important increase over time and as a result of the exponential increase in the number of researchers and published articles. In other words, as Gingras (2016) shows by a simple “demographic” effect, there is an important chance that the average number of citations of an article will increase over time. Based on this finding, we analyzed the number of references

contained in the articles in the studied database and came to the following findings:

1. Except for a Croatian diary (Management), where the average number of references has not been in any of the analyzed years less than 33, the rest of the journals have registered a maximum of 11 references by 2003. Romania reached an average of the article references greater than 10 only in 2010.
2. The average number of article references in Eastern Europe was consistently below the average number of article references in Western Europe. For

example, in 2015, the average number of references for articles published in Eastern European journals was 34, compared with 48 in Western Europe.

3. Romania ranks second in Eastern Europe in terms of the number of auto-citations in total citations (after Lithuania) and the first place in the ranking of the five countries for which a more in-depth analysis was possible (Table 2). Also, in this context, we note that the average of self-citations in total citations in Western Europe journals is 13%, compared to 21% in Eastern Europe.

**Table no. 2. The weight of self-citations in total citations in the top 5 East-European countries during 1996-2015**

Country	Citations	Self-citations	Citations/Self-citations
Romania	629	277	44.04%
Czech Republic	759	259	34.12%
Slovenia	2741	549	20.03%
Poland	1849	325	17.58%
Hungary	1678	135	8.05%

Source: The author, 2017

The gap between the countries of the two regions on the one hand, and between Romania and the other Eastern European countries on the other hand can be explained by their different levels of economic development. Hart and Sommerfeld (1998) have shown that the total number of publications in a country is closely related to the country's gross domestic product. In other words, it is obvious that scientific development can not be dissociated from the level of economic development of a country. Also, the low level of citations of articles published in Eastern European countries may be the consequence of the fact that these articles deal with issues of local importance, which would explain to some extent the high level of self-citations.

In addition, we can assume that articles dealing with topics of local importance are published in the language of the country where the research is carried out, which significantly reduces their visibility. Consequently, due to the need to ensure international visibility, some of the journals have become bilingual or simply ceased publishing articles in their national language, becoming English-language publications. However, at least for strictly demographic reasons, a journal published in

English has a larger potential number of readers than a journal published in any other language.

On the other hand, although citation is considered a measure of the visibility of articles, this perception can also lead to an increase in the number of auto-citations. The fact is not neglected in the context in which at the level of universities in Romania were requested information regarding the H-index provided by Google Scholar.

## Conclusions

The discussions that have taken place in Romania during the last years, on the evaluation of research, have been carried out since the 1960s at the level of the Western society, leading to the Science Citation Index (SCI), the H-index and the impact factor. In Romania, the transition to the use of these new methods of research evaluation was determined by the need to find objective forms of research results in the context of the transition to differentiated financing of universities according to performance. Beyond this need for classification, rigorous debates and analyzes would be needed to capture the peculiarities of different research

areas in finding ways to encourage research in the context of the need to modernize society and to involve researchers in Romania in the exchange of ideas Both in the country and abroad. Unfortunately, these discussions, if any, have been marginal, and research is carried out rather than as an institutional objective. In addition, solutions for participating in exchanges of ideas are only rarely institutional (organizing conferences and/or meetings of teachers from different specialties) but mostly individual. Moreover, it sometimes happens that individual efforts are not appreciated, sometimes underestimated or considered “accidents” generated by happy “meetings” of Romanian authors with different foreign collaborators.

Our study, though limited to the Scimago database, which, had in its turn, only the Scopus database as support, highlighted some relatively well-known but not necessarily publicly acknowledged aspects of Romanian accounting research. Firstly, the relatively large number of articles published in the period under review rather show the tendency to publish a lot, without a constant concern about the quality of the work, quantifiable, for example, by the number of citations received during a number of years. This is perhaps the consequence of the fact that, until relatively recently, there was no requirement for the quality of the articles, other than the indexation in the international databases of the journals in which they were published. It is only during the recent years that the criteria for occupying a teaching position have also included elements that take into account the quality of the published articles, in addition to the impact factor and, more recently, the relative influence score of the journals where a candidate has published articles, citations also being taken into account. Unfortunately, as a consequence of the need to publish in impact factor-driven journals and the need to be quoted, solutions have been sought such as: publishing in impact-oriented journals where the link to the candidate’s field of research is hard to find and “collegial” quote. Such practices are not necessarily to be condemned when: the modification of the criteria has often been done without a prior debate of the proposals; Romanian journals with impact factor in some research areas are missing; Publishing in foreign journals is extremely difficult, especially in the context of a lack of data to allow for quality research.

Another consequence of the need to publish in impact-oriented journals was the focus on “trendy” topics at

international level, which offer greater opportunities for publication and subsequent quotes. Unfortunately, in this way, the almost complete disappearance of the debate and, implicitly, the exchange of ideas on issues of local (national) interest has been achieved, which, especially in the present development conditions of our country, is not desirable at all. Moreover, if for many years there has been the practice of publishing works of conferences on topics of national interest (which would hardly become of interest to the journals) in collective volumes, as they have no impact factor, this practice has been abandoned, even if it maintained a certain level of debate.

Also, after a significant increase in the number of published papers during the doctoral sessions funding period through POS DRU programs, starting in 2015, there has been a decrease in the number of published articles. A possible cause of this decline is the increase in the exigencies of the Romanian journals, which, wanting to be indexed in the most prestigious databases, have tightened the review processes of the articles. An enlightening example is the “Financial Audit” journal, which, since 2017, has moved from a monthly appearance regime to its quarterly appearance, with the declared aim of “improving the quality of published articles” (<http://revista.cafr.en/home>).

Although the data base did not allow for such an analysis, it is obvious from previous research (Gingras, 2016; Chersan and Mironiuc, 2015; Teixeira da Silva and Dobranszki, 2016) that the so-called phenomenon of research “collectivization” appeared, in the sense that in more and more fields, research is performed by a team, while during the last century single-author papers were the rule, and the collaboration between the authors was quite rare. The phenomenon is interesting, given that, at least at the level of Romania, the team publication of the research results also implies the division of the score allocated to that achievement. However, a reason for the increase of the number of a paper’s authors is, at least in Romania, also the increasing costs of publishing in important journals. Unfortunately, Romanian researchers do not discuss at all the ethical issues that may arise in the case of collaborating in the production of articles, given that international issues are under debate, Teixeira da Silva, Dobranszki, Kamkar, Muscolo, Nasraoui, Ruan, Yu, Zeng, Winarto (2012, 2013, 2015 and 2016) are the authors of several studies that deal with ethics of

research, collaboration and partnership in scientific writing, spanning across many countries and geographic regions.

Therefore, it is noted that in addition to the deviations in the assessment of research that can be reported without the need for any bibliometric studies, it is a fact that in the process of scientific papers publishing, the most affected are the researchers in human and social sciences whose subjects are of local interest only, more than in the case of “hard” sciences, such as math, medicine, physics, chemistry, etc.

Under these circumstances, we must not be surprised that “practices are adapted to the criteria, although the situation should be the reverse” (Gingras, 2016, p. 40), but we should be saddened that in our country, the “transition from one theory to another is performed without any critical discussion, without debate, without opposition” (Patapievici, 2004, p.88).

Moreover, in a recently published study, Urdari, Farcas and Tiron Tudor (2017, p. 19) objectively and steadily present the current reality of Romanian higher education: “Focusing on publishing in top journals makes it detrimental to the development of significant long-term research; publishing requirements imposed by

faculties lead academics to neglect their teaching activities; the leadership of universities forces teachers to disconnect from the economic and social environment; instead of developing the atmosphere of collegiality, the evaluation process has led to increased tensions among peers, while practices cannot be corrected and redirected to the original purpose of higher education institutions.”

Many of the aspects observed and described in our study can be explained, at least in part, psychologically. Thus, by presenting the synthesis of the Romanian cultural profile as a result of a very wide and rigorous study, David (2015) argues that Romanians have a culture that promotes rather heterodetermination (the influence of tradition) towards self-determination (autonomy in decision) and pragmatism (personal interest) towards the civic spirit. Moreover, the same study shows that, compared to other Europeans, Romanians are less concerned about the general good or the well-being of the people they know, the search for the new and the independence but, in order to make a good impression, they pretend to be concerned of these values.

## REFERENCES

1. Archambault, E., Campbell, D., Gingras, Y. and Larivière, V. (2009), Comparing bibliometric statistics obtained from the Web of Science and Scopus, *Journal of the American Society for Information Science and Technology*, vol. 60, no. 7, pp. 1301–1517, DOI 10.1002/asi.21062.
2. Ball, R. and Tunger, D. (2006), Science indicators revisited: Science Citation Index versus SCOPUS: A bibliometric comparison of both citation databases, *Information Services & Use*, vol. 26, no. 4, pp. 293–301, DOI 10.3233/isu-2006-26404.
3. Bar-Ilan, J. (2008), Which h-index? A comparison of WoS, Scopus, and Google Scholar, *Scientometrics*, vol. 74, no. 2, pp. 257–271, DOI 10.1007/s11192-008-0216-y.
4. Belew, R.K. (2005), Scientific impact quantity and quality: Analysis of two sources of bibliographic data, accessed on 4 March 2009, pe <http://arxiv.org/abs/cs.IR/0504036>.
5. Chersan, I.-C. and Mironiuc, M. (2015), Incursion in the audit and accounting research over one decade. Intuitive analysis on the articles published in Audit Financiar Journal, *Audit financiar*, vol. XIII, no. 2(122)/2015, pp. 116-129.
6. David, D. (2015), *Psihologia poporului roman. Profilul psihologic al românilor într-o monografie cognitive-experimentală*, POLIROM.
7. Falagas, M.E., Pitsouni, E.I., Malietzis, G.A. and Pappas, G. (2008), Comparison of PubMed, Scopus, Web of Science, and Google Scholar: strengths and weaknesses, *FASEB Journal*, vol. 22, no. 2, pp. 338–342, DOI 10.1096/fj.07-9492lsf.
8. Gavel, Y. and Iselid, L. (2008), Web of Science and Scopus: A journal title overlap study, *Online Information Review*, vol. 32, no. 1, pp. 8–21, DOI 10.1108/14684520810865958.
9. Gingras, Y. (2016), *Derive în evaluarea cercetării. Despre o bună utilizare a bibliometriei*, Editura Universității „Alexandru Ioan Cuza” Iași.
10. Guerrero-Bote, V.P. and Moya-Anegón, F. (2012), A further step forward in measuring journals'

- scientific prestige: The SJR2 indicator, *Journal of Informetrics*, vol. 6, no. 4, pp. 674–688, DOI 10.1016/j.joi.2012.07.001.
11. Hart, P.W. and Sommerfeld, J.T. (1998), Relationship between growth in gross domestic product (GDP) and growth in the chemical engineering literature in five different countries, *Scientometrics*, vol. 42, no. 3, pp. 299–311, DOI 10.1007/BF02458373.
  12. Hicks, D., Wouters, P., Waltman, L., de Rijcke, S. and Rafols, I. (2015), Bibliometrics: The Leiden Manifesto for research metrics, *Nature*, vol. 520, no. 7548, pp. 429–431, DOI 10.1038/520429a.
  13. *Nature* (2015) (Editorial), A numbers game, vol. 523, no. 7559, pp. 127–128, DOI 10.1038/523127b.
  14. *Nature* (2016) (Editorial), Time to remodel the journal impact factor, vol. 535, no. 7613, pp. 466, DOI 10.1038/535466a.
  15. Norris, M. and Oppenheim, C. (2007), Comparing alternatives to Web of Science for coverage of the social sciences' literature, *Journal of Informetrics*, vol. 1, no. 2, pp. 161–169, DOI 10.1016/j.joi.2006.12.001.
  16. Patapievici, H.-R. (2007), *Despre idei și blocaje*, Editura Humanitas, București.
  17. Patapievici, H.-R. (2004), *Discernământul modernizării*, Editura Humanitas, București.
  18. Patapievici, H.-R. (2014), *De ce nu avem o piață a idelilor*, Ediția a 2-a, Editura Humanitas, București.
  19. Sangster, A. (2015), You cannot judge a book by its cover: The problems with journal rankings, *Accounting Education: an international journal*, vol. 24, no. 3, pp. 175–186, DOI: 10.1080/09639284.2015.1055929.
  20. SCImago. (2007). SJR — SCImago Journal & Country Rank, accessed on 21 July 2015, at <http://www.scimagojr.com>.
  21. Teixeira da Silva, J.A. and Dobranszki, J. (2016a), How authorship is defined by multiple publishing organizations and STM publishers, *Accountability in Research: Policies and Quality Assurance*, vol. 23, no. 2, pp. 97–122, DOI 10.1080/08989621.2015.1047927.
  22. Teixeira da Silva, J.A. and Dobranszki, J. (2016b), Multiple authorship in scientific manuscripts: ethical challenges, ghost and guest/gift authorship, and the cultural/disciplinary perspective, *Science and Engineering Ethics*, vol. 22, no. 5, pp. 1457–1472, DOI 10.1007/s11948-015-9716-3.
  23. Teixeira da Silva, J.A. and Kamkar, B. (2013), International collaboration, co-operation and partnerships in science writing in the Islamic Republic of Iran, *The Asian and Australasian Journal of Plant Science and Biotechnology*, vol. 7, Special Issue 1, pp. 61–65.
  24. Teixeira da Silva, J.A. and Muscolo, A. (2012), International collaboration, co-operation and partnerships in science writing: Focus on Italy, *Romanian Biotechnological Letters*, vol. 17, no. 2, pp. 7043–7048.
  25. Teixeira da Silva, J.A. and Nasraoui, B. (2013), International collaboration, partnerships or co-operation (CPC) in science writing: Case of Africa and the Middle East with a focus on Tunisia, *The African Journal of Plant Science and Biotechnology*, vol. 7, no. 1, pp. 99–105.
  26. Teixeira da Silva, J.A., Ruan, C.-J., Yu, X.-N. and Zeng, S.-J. (2013), International collaboration, scientific ethics and science writing: Focus on China, *The Asian and Australasian Journal of Plant Science and Biotechnology*, vol. 7, Special Issue 1, pp. 38–45.
  27. Teixeira da Silva, J.A. and Winarto, B. (2013), Challenges to science development and international publishing in Indonesia, *The Asian and Australasian Journal of Plant Science and Biotechnology*, vol. 7, Special Issue 1, pp. 46–56.
  28. Urdari, C., Farcaș, T.V. and Tiron Tudor, A. (2017), Assessing the legitimacy of HEIs' contributions to society: the perspective of international rankings, *Sustainability Accounting, Management and Policy Journal*, vol. 8, no. 2, pp. 191–215, DOI 10.1108/SAMPJ-12-2015-0108.

---

# Impression management – an international perspective

---

*Maria-Silvia SĂNDULESCU,*  
The Bucharest University of Economic Studies,  
E-mail: maria.sandulescu@cig.ase.ro

## Abstract

*The purpose of this paper is to perform a review of the international literature regarding impression management by presenting the inherent strategies and their potential impact on the users of accounting information. The concept involves creating a favorable image regarding the financial performance of the company and using it in order to manipulate the decisions of the users of accounting information. The persuasion within corporate narratives overrules the fundamental characteristic of information, namely faithful representation. Consequently, knowing the impression management strategies facilitates their identification and lowers their efficiency and negative effects. As a result, the present study analyzes the main research papers published from 2000 to 2015 in an international background that investigates the impression management concept. Finally, future research opportunities are identified.*

**Keywords:** *Impression management, manipulation, financial performance, users of accounting information*

**JEL Classification:** *D82, M41*

### To cite this article:

Săndulescu, M.S. (2017), Impression management – an international perspective, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 605-612,  
DOI: 10.20869/AUDITF/2017/148/605

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/605>  
Received: 25.04.2017  
Revised: 09.05.2017  
Accepted: 10.05.2017

## Introduction

The objective of this study is to perform a review of the international literature regarding impression management by presenting the inherent strategies and their potential impact on the users of accounting information. This opportunistic behavior involves creating a favorable image and choosing the means of presenting it with a view to manipulate the public opinion (Leary and Kowalski, 1990 cited by Merkl-Davies and Brennan, 2007). In an economic context, the information disseminated within the communication mechanisms used by companies, is molded by the managers in order to illustrate a fictitious financial performance (Clatworthy and Jones, 2001, 2006).

The annual reports are one of the communication mechanisms used by companies. The narrative segments are intended to decrease the information asymmetry between managers and shareholders or managers and investors by presenting the financial statements in an unbiased manner (Clatworthy and Jones, 2006; Merkl-Davies and Brennan, 2007; Rutherford, 2005), and therefore facilitating the decision making process of external users (Leung, Parker and Courtis, 2015). However, we can witness the framing of the information within corporate narratives because of their discretionary content that is not amended by the audit report (Brennan and Merkl-Davies, 2013; Brennan, Guillamón-Saorín and Pierce, 2009; Clatworthy and Jones, 2001, 2003, 2006). Consequently, these circumstances should determine the increased attention of the users of these reports since impression management contradicts the principles that generate the audit opinion (Clatworthy and Jones, 2003, 2006; Guillamón-Saorín and Martínez Lopez, 2013; Beattie and Jones, 2000).

In addition, "management may well seek to manage their narratives just as they manage other features of the annual report" (Clatworthy and Jones, 2001, p. 311). This view is further enhanced by Aerts and Cheng (2011) who document a strong relation between the manipulation of financial results and the use of impression management techniques in order to lower the possibility of being unveiled. The inherent effects of these strategies will negatively impact the actual and potential investors by making capital misallocations (García Osma and Guillamón-Saorín, 2011).

Following the theoretical framework developed in 2007 by Merkl-Davies and Brennan, the present paper intends

to extend the period of analysis by including the results of several studies published between 2000 and 2015. Moreover, this study integrates alternative perspectives that are in direct contrast with impression management that were previously identified by Merkl-Davies and Brennan in 2011. However, the paper identifies future research directions regarding the situation of emerging economies from Central and East Europe.

In the first section of this study is presented the research methodology. The next two sections analyze the impression management concept from an economic and a social psychology perspective. In section four will be identified antithetical perspectives regarding this opportunistic behavior while in the fifth one will be illustrated its impact on the users of accounting information. Finally, the last section concludes the results of the study, providing future research directions.

## 1. Research methodology

Due to the fact that "decision-making is likely to be a holistic process which combines cognitive and emotional factors" (Merkl-Davies and Brennan, 2011, p. 420), the present study will be designed in order to analyze the previous research papers that have adopted an economic and a social psychology perspective on impression management. The two dimensions evaluate this opportunistic behavior in relation to actual and potential investors<sup>1</sup>, being in fact "different ways of seeing the same phenomenon" (Merkl-Davies and Brennan, 2011, p. 418).

The studies were identified using electronic resources such as: ProQuest, Emerald, ScienceDirect, Sage Journals, JSTOR, using keywords like: "impression management" and "corporate reporting" or "annual report". The papers were further classified according to the perspective and the strategies used in impression management using the theoretical framework developed in 2007 by Merkl-Davies and Brennan. Because an extension of the previous study was envisaged, this paper includes articles that were published from 2000 to 2015 in journals like: Accounting, Auditing and

<sup>1</sup> Merkl-Davies and Brennan (2011) and Brennan and Merkl-Davies (2013) also recognize a sociological and critical perspective on impression management. These perspectives explore concepts like social responsibility and control. However, this study analyzes impression management that reflects the framing of financial performance.

Accountability Journal, Accounting, Organizations and Society, The Accounting Review, The British Accounting Review, Journal of Accounting and Public Policy, European Accounting Review Accounting and Business Research. Since these publications are in the top 30 accounting journals it can be observed an increased interest allocated to the analysis of these managerial strategies.

## 2. Economic perspective

Impression management has a possible explanation from an economic, rational perspective of managers, determined by the maximization of their utility, namely remuneration benefits (Merkl-Davies and Brennan, 2011, Yekini, Wisniewski and Millo, 2015). The agency theory provides the basis for analysis of this opportunistic behavior (Merkl-Davies and Brennan, 2011) because it defines the relation between managers and shareholders as well as the information asymmetry between them (Jensen and Meckling, 1976 cited by Guillamón-Saorín and Martínez-López 2013; Ross, 1973 cited by Guillamón-Saorín and Martínez-López 2013). When this information asymmetry is used in a strategic manner (Brennan and Merkl-Davies, 2013) the inherent result is a reporting bias regarding the financial performance of the company (Merkl-Davies and Brennan, 2007, 2011).

In practice several impression management strategies are used simultaneously (Brennan, Guillamón-Saorín and Pierce, 2009), highlighting managers' tendency to conceal negative results and enhance the positive ones (Merkl-Davies and Brennan, 2007; Brennan, Guillamón-Saorín and Pierce, 2009; Beattie and Jones, 2000). In this respects, in 2007 Merkl-Davies and Brennan have classified the strategies used by managers in order to manipulate the content and presentation of qualitative and quantitative information:

### ✓ Performance comparison

Previous research provided evidence of managers' predisposition in making multiple comparisons (Short and Palmer, 2003; Schrand and Walther, 2000). At this level, impression management involves a strategic choice of internal or external indicators (Short and Palmer, 2003) that are further used in making comparisons with a view of highlighting progress (Schrand and Walther, 2000; Henry, 2008; Clatworthy and Jones, 2006; Guillamón-Saorín and Martínez-López, 2013).

### ✓ Selectivity

Information is selected by managers in order to accentuate the financial performance of the company (Bowen, Davis and Matsumoto, 2005). Beattie and Jones (2000) identify this tendency even in the use of graphs: „Naturally, company management is most likely to wish to include graphs that create a positive impression, but exclude those that create a negative impression” (p. 170).

### ✓ Emphasis

Information can be emphasized by a strategic placement within the report (Bowen, Davis and Matsumoto, 2005; Guillamón-Saorín and Martínez-López, 2013) and by using different formats of the text (Brennan, Daly and Harrington, 2010). Another technique implies the intensification of the information, when a qualifier is associated to a keyword in order to emphasize the latter (Brennan, Guillamón-Saorín and Pierce, 2009). In addition when repeating certain information both emphasis (Henry, 2008) and memorability (Davison, 2008) is accomplished.

Furthermore Beattie and Jones (2000) explored graph distortion that involves the exaggeration of its dimensions. In this respect, impression management contradicts “a fundamental principle of graph design” in which “the physical measurements of the graph should be in direct proportion to the numerical values that they represent” (p. 161).

### ✓ Thematic manipulation

Both the content and the tone of the disclosure mechanisms used by companies can influence the users of the accounting information (Rutherford, 2005; Henry 2008). The narratives' potential in influencing decisions implies a “cumulative series of signals in the text that, when read by the actor, gradually brings about cognitive structure change and a change in attitude” (Yekini, Wisniewski and Millo, 2015, p. 4). In this respect, previous studies have underlined the abnormal use of positive words over the negative ones (Rutherford, 2005; Clatworthy and Jones, 2003; Guillamón-Saorín and Martínez-López, 2013). Subsequently, “the more often positive tone expressions are mentioned in the text, the more likely it is that they will be influential” (Yekini, Wisniewski and Millo, 2015, p. 4).

A positive tone can consist of “focusing on positive outcomes and/or by describing outcomes in a positive

way” (Henry, 2008, p 377). The tendency of using this tone irrespectively of the real outcomes of the companies is known as the Pollyanna effect (Hildebrandt and Snyder, 1981 cited by Rutherford, 2005). The effect has been associated to impression management by Rutherford (2005), who highlights that its efficiency implies “a level of positive charging that users might not be expecting and thus might not allow for appropriately” (p. 375).

### 3. Social psychology perspective

The social psychology perspective assumes that impression management “serves the basic psychological human need of presenting oneself in such a way as to gain favourable reactions from others” (Turner, 1991 cited by Clatworthy and Jones, 2003). In an economic context, this opportunistic behavior is determined by the “anticipation of potential negative consequences of information releases” (Merkl-Davies and Brennan, 2011, p. 423).

The context that defines the presence of this manipulation is also reflected in the information asymmetry and the conflict of interests between managers and actual or potential investors (Aerts, 2005). The social psychology perspective assumes that gaining material and social rewards or avoiding sanctions are main motivational aspects in using impression management (Frink and Ferris, 1998 cited by Brennan and Merkl-Davies, 2013).

This self-serving bias is associated with the attribution theory and entails the attribution of positive results to internal factors and of negative results to external ones (Clatworthy and Jones, 2003; Aerts, 2001, 2005; Aerts and Cheng, 2011; Merkl-Davies and Brennan, 2011). It has not been established a relation between the occurrence of these types of attributions and the financial performance of the company (Clatworthy and Jones, 2003, Aerts, 2001). In this respect, identifying framing tendencies becomes possible by considering “the actual performance of a company only influencing the amount of each type of information that must be explained” (Staw, McKechnie and Puffer, 1983, p. 595 cited by Aerts, 2001, p. 9).

The international literature identifies the following types of attributions (Aerts, 2001, p. 7):

- Assertive attributions- when the importance, relevance and scope of positive outcomes or actions is enhanced
- Defensive attributions – when the significance of negative outcomes is minimized

This theoretical framework was further extended by Aerts in 2005. The author highlights the fact that the attribution of positive outcomes, namely entitlements, is generally followed by an enhancement. In addition, defensive attributions are further classified as excuses, justifications and denial of responsibility.

### 4. Antithetical perspectives

#### 4.1. Incremental information

The existence of impression management is questioned by studies that support the incremental value information (Baginski, Hassell and Hillison, 2000; Yekini, Wisniewski and Millo, 2015; García Osma and Guillamón-Saorín, 2011; Dainelli, Bini and Giunta, 2013; Yuthas, Rogers and Dillard, 2002). This theory is grounded on the privacy and relevance of the information disclosed, in the decision making process (Beyer et al., 2010 cited by Dainelli, Bini and Giunta, 2013).

It is also emphasized the investors’ ability in detecting bias (Yuthas, Rogers and Dillard, 2002) that will further “lead to higher cost of capital and reduced share price performance” (Merkl-Davies and Brennan, 2011, p. 416) as well as reputation damages (Yekini, Wisniewski and Millo, 2015).

Baginski, Hassell and Hillison (2000) acknowledge the attribution of positive results to internal factors and of negative results to external ones but they conclude that these types of attributions reduce the information asymmetry. Although the authors admit the fact that these disclosures can be influenced by impression management, they “cast doubt on whether the phenomenon represents a bias or at least a sufficient bias to impair credibility” (p. 373). The justification provided by the authors is that managers’ objectives are represented by the maximization of the outcomes and therefore the internal factors cannot be purposely involved in reaching negative results, this being determined by external ones. Although Yekini, Wisniewski and Millo (2015) admit the fact that “narratives may be partially used to build brands and

manage impressions” the authors also stress the benefits “to the reduction of informational asymmetries” (p. 11).

#### 4.2. Egocentric bias

Egocentric bias defines the circumstances of managers’ limited rationality caused by the optimism and overvaluation of their own personal abilities (Merkl-Davies and Brennan, 2007). In this view determining whether impression management is used consciously or not becomes relevant. (Clatworthy and Jones, 2003, 2006; Aerts 2001, 2005). While the conscious use disregards the investors’ interests, the unconscious one causes the impossibility to make rational decisions (Clatworthy and Jones, 2003) since “managers may be failing to engage with, and perhaps are thus less likely to address and rectify, the underlying causes of poor performance” (Clatworthy and Jones, 2006, p. 505).

#### 4.3. Retrospective sense-making

Aerts (2005) defines retrospective sense-making as the manner in which company’s outcomes are explained with a view of emphasizing the existence of managerial rationality and control over the present conditions. As Aerts and Cheng (2011) highlight “by taking responsibility for both positive and negative outcomes suggest that the firm is competent and capable to enact changes to remedy future performance” (p. 454).

This perspective is in direct contrast with prospective rationality where the communication mechanisms are used by company for providing incremental information or impression management (Merkl-Davies, Brennan and McLeay, 2011). In addition, Aerts (2005) encourages the use of these “subtle mechanisms” (p. 515) over impression management, mainly for negative outcomes in order “to construct an aura of optimism around an inherently negative financial base signal and/or to support the credibility of responsibility reducing verbal tactics”.

#### 4.4. Conclusion

The keyword that defines the boundaries of these four perspectives is represented by the managers’ intention. When the company intends to make private and relevant disclosures in order to emphasize its performance in a competitive environment, the purpose of narratives can be associated to the incremental information

perspective. In a similar vein, when the presentation of performance outcomes emphasizes the positive outcomes and minimize or even disregards the negative ones, we can witness the presence of impression management. On the contrary while retrospective rationality may be initially compared with impression management, because of the subtle methods used in presenting the information, the differences arise from the fact that negative outcomes are not concealed. These are rather disclosed and assumed with a view of justifying manager’s rationality and control. As a final point, when the same evidences attributable to impression management are identified without being caused by the inherent intention of this opportunistic behavior, we can acknowledge an egocentric bias triggered by manager’s limited rationality. His over optimism generates an unreal perspective and a lack of control over the company’s outcomes that undermines the adoption of remedial actions.

### 5. The impact on users of accounting information

The economic and social psychology perspectives evaluate the impression management concept in relation to actual and potential investors (Brennan and Merkl-Davies, 2013). Exploring this opportunistic behavior in the companies’ annual reports is driven by the high level of importance assigned by the users of accounting information in the decision making process (Breton and Taffler, 2001 cited by Davison, 2008, Clatworthy and Jones, 2003). Moreover, the use of corporate narratives by financial analysts in making predictions regarding future performance emphasize this view since they are sophisticated users “acting on behalf of large investors” (Rutherford, 2005, p. 349). While the narrative segments in the annual reports reflect the manner in which “financial statements are implanted” (Davison, 2008, p. 792) to the users of accounting information, we can assume that “both lay and expert readers are open to persuasive devices” (Davison, 2008, p. 794).

Knowing the strategies used in impression management facilitates the achievement of an advanced level in understanding and interpreting the information disclosed by companies (Rutherford, 2005). The efficiency of these strategies can determine an increase in the value of the shares (Clatworthy and Jones, 2006) and capital misallocations (Merkl-Davies and Brennan, 2007;

Brennan and Merkl-Davies, 2013, Leung, Parker and Curtis, 2015). Moreover, Smith and Taffler (2000) underlined the importance of analyzing these communication mechanisms that, although unaudited, include evidences that can suggest a risk of bankruptcy.

The limited rationality of the users of accounting information represents the context that facilitates the occurrence and efficiency of impression management (Schrand and Walther, 2000; Krische, 2005; Merkl-Davies and Brennan, 2011). This limitation denote the fact that “economic actors make decisions based on incomplete information, by exploring a limited number of alternatives, and by attaching only approximate values on outcomes” (Mumby and Putnam, 1992 cited by Merkl-Davies and Brennan, 2011).

The efficiency of these strategies may be limited to certain users of accounting information (Rutherford, 2005). The unsophisticated investors tend to use the companies’ reports as a substitute for financial statements (Stanton, Stanton and Pires, 2004) because they don’t have the required abilities for understanding and interpreting the accounting information (Henry, 2008). Moreover, the flexibility delivered by the internet determines the individual investors to decline the services provided by brokers (Barber and Odean, 2001 cited by Guillamón-Saorín and Martínez-López, 2013) and thus raising the probability of being manipulated (Guillamón-Saorín and Martínez-López, 2013).

On the other hand, “if investors have the ability to gather private information from other sources and to correctly evaluate public information, attempts by companies to mislead investors by focusing only on positive news cannot be successful” (Miller and Bahnson, 2002 cited by Henry, 2008, p. 382). In addition, Yekini, Wisniewski and Millo (2015) stress the fact that investors have the ability to anticipate managers’ tendency to use positive language.

However, Henry (2008) draws attention to the fact that the purpose of impression management is not to present information that can be easily contested. As a result, it can be assumed that both sophisticated and unsophisticated users can be influenced by impression management because some strategies “may be so subtle as to be imperceptible” (p. 369).

In addition, previous literature documents investors’ tendency to forget certain information (Schrand and Walther, 2000; Krische, 2005): “any investor can neglect relevant aspects of information, without fully realizing

that their attention is imperfect” (Hirshleifer and Teoh, 2003 cited by Krische, 2005, p 265).

In this view, improving the law requirements concerning the content of the communication mechanisms used by companies can limit the presence and efficiency of impression management strategies (Maines et al., 2000 cited by Krische, 2005; Yekini, Wisniewski and Millo, 2015). It is also emphasized the auditors’ role in performing a better evaluation of the information disclosed in the narrative segments. Auditors are also encouraged to perform a rigorous evaluation of the information disclosed in the corporate narratives. Finally, implementing efficient corporate governance mechanisms may play an important role in decreasing the incidence of impression management (García Osma and Guillamón-Saorín, 2011).

## Conclusions

In this paper was performed a review of the extant literature concerning impression management by presenting the strategies that may negatively impact the utility of accounting information. In this respect were analyzed the main studies published between 2000 and 2015 that investigate this opportunistic behavior from an economic and social psychology perspective.

Knowing the impression management strategies facilitates the achievement of an advanced level in understanding and interpreting the information disclosed by companies (Rutherford, 2005). There is a call for increased attention of the users of these reports since biased information contradicts the principles that influence the audit opinion (Clatworthy and Jones, 2003, 2006; Guillamón-Saorín and Martínez-López, 2013; Beattie and Jones, 2000). Clatworthy and Jones (2001) draw attention to the fact that “management may well seek to manage their narratives just as they manage other features of the annual report” (p. 311). When narratives are used for persuasive purposes, the objective to decrease the information asymmetry is abandoned while this asymmetry increases (Frost, 1994 cited by Dainelli, Bini and Giunta, 2013).

Because the concept was mainly analyzed in developed economies such as the US (Henry, 2008; Yuthas, Rogers and Dillard, 2002; Baginski, Hassell and Hillison, 2000) and the UK (Brennan, Guillamón-Saorín and Pierce, 2009; Clatworthy and Jones 2003, 2006; Yekini, Wisniewski and Millo, 2015, Rutherford, 2005) there is

an opportunity to extend the literature by analyzing impression management in emerging economies such as the ones in CEE. While in this background were identified poor corporate governance mechanisms (Berglöf and Pajuste, 2005, Albu and Gîrbină, 2015) the association between this unfavorable context and impression management can be further analyzed.

According to García Osma and Guillaumon-Saorín (2011) the efficiency of corporate governance mechanisms can lower the presence of biased information. As a result, exploring this context can generate results that can further contribute to a better understanding of the information disclosed in the communication mechanisms used by companies.

## REFERENCES

1. Aerts, W. and Cheng, P. (2011), Causal disclosures on earnings and earnings management in an IPO setting, *Journal of Accounting and Public Policy*, vol. 30, no. 5, pp. 431–459, DOI 10.1016/j.jaccpubpol.2011.03.006.
2. Aerts, W. (2001), Inertia in the attributional content of annual accounting narratives, *European Accounting Review*, vol. 10, no. 1, pp. 3-32, DOI 10.1080/09638180122562.
3. Aerts, W. (2005), Picking up the pieces: impression management in the retrospective attributional framing of accounting outcomes, *Accounting, Organizations and Society*, vol. 30, no. 6, pp. 493–517, DOI 10.1016/j.aos.2004.07.001.
4. Albu, C.N. and Gîrbină, M.M. (2015), Compliance with corporate governance codes in emerging economies. How do Romanian listed companies “comply-or-explain”?, *Corporate Governance International Journal of Business in Society*, vol. 15, no. 1, pp. 85-107, DOI 10.1108/cg-07-2013-0095.
5. Baginski, S.P., Hassell, J.M. and Hillison, W.A. (2000), Voluntary causal disclosures: Tendencies and capital market reaction, *Review of Quantitative Finance and Accounting*, vol. 15, no. 4, pp. 371-389, DOI 10.1023/a:1012002608615.
6. Beattie, V. și Jones, M.J. (2000), Impression Management: The Case of Inter-country Financial Graphs, *Journal of International Accounting, Auditing și Taxation*, vol. 9, no. 2, pp. 159-183, DOI 10.1016/s1061-9518(00)00030-6.
7. Berglöf, E. and Pajuste, A. (2005), What do firms disclose and why? Enforcing Corporate Governance and Transparency in Central and Eastern Europe, *Oxford Review of Economic Policy*, vol. 21, no. 2, pp. 178-197.
8. Bowen, R. M., Davis, A. K. and Matsumoto, D. A. (2005), Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention and market reactions, *The Accounting Review*, vol. 80, no. 4, pp. 1011-1038, DOI 10.2308/accr.2005.80.4.1011
9. Brennan, N.M. and Merkl-Davies, D.M. (2013), Accounting narratives and impression management, În: Jack, L., Davison, J., and Craig, R., ed. *The Routledge companion to accounting communication*, Routledge, 109-132, DOI 10.4324/9780203593493.ch8
10. Brennan, N.M., Guillaumon-Saorin, E. and Pierce, A. (2009), Impression management: Developing and illustrating a scheme of analysis for narrative disclosures – A methodological note, *Accounting, Auditing and Accountability Journal*, vol. 22, no. 5, pp. 789-832, DOI 10.1108/09513570910966379.
11. Brennan, N.M., Daly, C.A. and Harrington, C.S. (2010), Rhetoric, argument and impression management in hostile takeover defence documents, *The British Accounting Review*, vol. 42, pp. 253–268, DOI 10.1016/j.bar.2010.07.008.
12. Clatworthy, M.A. and Jones, M.J. (2001), The effect of thematic structure on the variability of annual report readability, *Accounting, Auditing and Accountability Journal*, vol. 14, no. 3, pp. 311 – 326, DOI 10.1108/09513570110399890.
13. Clatworthy, M.A. and Jones, M.J. (2003), Financial reporting of good news and bad news: evidence from accounting narratives, *Accounting and Business Research*, vol. 33, no. 3, pp. 171-185, DOI 10.1080/00014788.2003.9729645.
14. Clatworthy, M.A. and Jones, M.J. (2006), Differential patterns of textual characteristics and company performance in the chairman’s statement,

- Accounting, Auditing and Accountability Journal*, vol. 19, no. 4, pp. 493-511, DOI 10.1108/09513570610679100.
15. Dainelli, F., Bini, L. and Giunta, F. (2013), Signaling strategies in annual reports: Evidence from the disclosure of performance indicators, *Advances in Accounting*, vol. 29, no. 2, pp. 267–277, DOI 10.1016/j.adiac.2013.09.003.
  16. Davison, J. (2008), Rhetoric, repetition, reporting and the “dot.com” era: words, pictures, intangibles, *Accounting, Auditing and Accountability Journal*, vol. 21, no. 6, pp. 791-826, DOI 10.1108/09513570810893254.
  17. García Osmá, B., and Guillamón-Saorín, E. (2011), Corporate governance and impression management in annual results press releases, *Accounting, Organizations and Society*, vol. 36, no. 4-5, pp. 187-208, DOI 10.1016/j.aos.2011.03.005.
  18. Guillamón-Saorín, E. and Martínez-López, F. J. (2013), Corporate financial communication and the internet: manipulating investor audiences?, *Online Information Review*, vol. 37, no. 4, pp. 518-537, DOI 10.1108/oir-10-2011-0142.
  19. Henry, E. (2008), Are investors influenced by how earnings press releases are written?, *Journal of Business Communication*, vol. 45, no. 4, pp. 363-407, DOI 10.1177/0021943608319388.
  20. Krische, S. D. (2005), Investors' evaluations of strategic prior-period benchmark disclosures in earnings announcements, *The Accounting Review*, vol. 80, no. 1, pp. 243-268, DOI 10.2308/accr.2005.80.1.243.
  21. Leung, S., Parker, L. and Curtis, J. (2015), Impression management through minimal narrative disclosure in annual reports, *The British Accounting Review*, vol. 47, no. 3, pp. 275-289, DOI 10.1016/j.bar.2015.04.002.
  22. Merkl-Davies, D.M. and Brennan, N.M. (2007), Discretionary disclosure strategies in corporate narratives: Incremental information or impression management?, *Journal of Accounting Literature*, vol. 26, no. 1, pp. 116-194.
  23. Merkl-Davies, D.M. and Brennan, N.M. (2011), A conceptual framework of impression management: new insights from psychology, sociology and critical perspectives, *Accounting and Business Research*, vol. 41, no. 5, pp. 415-437, DOI 10.1080/00014788.2011.574222.
  24. Merkl-Davies, D.M., Brennan, N.M. and McLeay, S.J. (2011), Impression management and retrospective sense-making in corporate narratives: A social psychology perspective, *Accounting, Auditing and Accountability Journal*, vol. 24, no. 3, pp. 315-344, DOI 10.1108/09513571111124036.
  25. Rutherford, B.A. (2005), Genre analysis of corporate annual report narrative s: A corpus linguistics-based approach, *Journal of Business Communication*, vol. 42, no. 4, pp. 349-378, DOI 10.1177/0021943605279244.
  26. Schrand, C.M. and Walther, B.R. (2000), Strategic benchmarks in earnings announcements: The selective disclosure of prior-period earnings component, *The Accounting Review*, vol. 75, no. 2, pp. 151-177, DOI 10.2308/accr.2000.75.2.151.
  27. Short, J.C. and Palmer, T.B. (2003), Organizational performance referents: An empirical examination of their content and influences, *Organizational Behavior and Human Decision Processes*, vol. 90, no. 2, pp. 209–224, DOI 10.1016/s0749-5978(02)00530-7.
  28. Smith, M., and Taffler, R.J. (2000), The chairman's statement - A content analysis of discretionary narrative disclosures, *Accounting, Auditing and Accountability Journal*, vol. 13, no. 5, pp. 624 – 647, DOI 10.1108/09513570010353738.
  29. Stanton, P., Stanton, J. and Pires, G. (2004), Impressions of an annual report: an experimental study, *Corporate Communications: An International Journal*, vol. 9, no. 1, pp. 57 – 69, DOI 10.1108/13563280410516500.
  30. Yekini, L.S., Wisniewski, T.P. and Millo, Y. (2015), Market reaction to the positiveness of annual report narratives, *International Business Review*, vol. 48, no. 3, pp. 415-430, DOI 10.1016/j.bar.2015.12.001.
  31. Yuthas, K., Rogers, R. and Dillard, J.F. (2002), Communicative action and corporate annual reports, *Journal of Business Ethics*, vol. 41, no. 1, pp. 141–157, DOI 10.1023/a:1021314626311.

---

# Empirical study regarding the integrated reporting practices in Europe

---

Alina BRATU,  
Bucharest University of Economic Studies, Romania,  
E-mail: [alina.bratu1605@gmail.com](mailto:alina.bratu1605@gmail.com)

## Abstract

*Integrated reporting is a practice which seeks to communicate an organization's value through a holistic picture integrating both financial and non-financial information. This process is in its incipient phase, with many companies unsure of how prepare a truly integrated report. With the aim of providing a better understanding on integrated reporting and its benefits, a common framework, was developed by The International Integrated Reporting Committee (IIRC).*

*The main objective of this paper is to assess the compliance level of the integrated reports published for 2015 by the European companies which have adopted the initiative, with the IIRC Framework suggestions regarding its Guiding Principles. This research was carried out by using a content analysis and scoring based methodology.*

*The results reveal that the companies are in different stages regarding the conformity with the IIRC requirements. Moreover, some companies analyzed in this study are in the vanguard of the initiative whereas others produce "combined" rather than "integrated" reports. This research contributes to relevant literature by analyzing the post IIRC Framework publication period, as it studies integrated or annual reports published for the 2015 fiscal year.*

**Keywords:** *Integrated reporting, IIRC Framework, guiding principles, content analysis, scoring.*

**JEL Classification:** M10, M40, O52, F60

### To cite this article:

Bratu, A. (2017), Empirical study regarding the integrated reporting practices in Europe, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 613-627, DOI: 10.20869/AUDITF/2017/148/613

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/613>

Received: 10.05.2017

Revised: 04.06.2017

Accepted: 04.06.2017

## Introduction

In recent years, due to the increasing complexity of international business environment, new reporting stipulations were necessary and were added by laws, regulations, standards, codes, guidelines or stock exchange requirements (IIRC, 2011). This has led to an increased amount of information presented by companies, leading to long and complex financial reports, with technical details that require a high level of expertise to be understood (Deloitte, 2012).

Although awareness regarding the responsibility for reporting to stakeholders is growing, companies still require confirmations related to the usefulness of sustainable reporting practices (Caraiani et al., 2015). Companies would prefer to include in the reports only positive aspects which highlight the business related strengths, while disclosure of environmental and social indicators can lead to competitive disadvantages (Dima, Popa and Farcane, 2015).

Also, companies have the tendency to include more management related issues than performance insights and the presented information can be easily manipulated and it usually has a marginal relevance to the business. The listed items aim to positively influence the economic situation or to demonstrate the best practices regarding sector regulations application, providing useful information only for the company's management (Bonila-Priego et al., 2014).

In order to meet the stakeholders' information needs, companies have issued increasingly more reports of non-financial nature, including the social, environmental and economic impacts, not only as a form of accountability, but also as a way to design the company's strategy. (Caraiani et al., 2015; Lungu, Caraiani and Dascălu, 2011).

Outstanding companies have begun to integrate all their reports into one paper, producing integrated reports in order to achieve sustainable development. This allows to provide the necessary information to the stakeholders by allocating a minimum of resources. This report provides information on corporate governance, strategy and performance in an organized manner, and it highlights the context in which the company operates (García-Sánchez, Rodríguez-Ariza and Frías-Aceituno, 2013; IIRC, 2013a; Eccles and Krzus, 2010).

A new concept that incorporates the principles of sustainability reporting was developed as Integrated Reporting (IR) (Caraiani et al., 2015). This notion is seen as a way of presenting an extensive business model and the value creation process within a company, the adoption of a long-term perspective being supported (Adams, 2014 cited by Dima, Popa and Farcane, 2015).

Integrated reporting involves connecting financial and non-financial information in a single report, in order to highlight the existing interdependencies, therefore significantly increasing the quality of reporting. Integrated reporting is the most efficient way to identify issues which affect corporate activity and is the modality to achieve an improved resource allocation. All of these support integrated thinking, and the management actions are aimed at creating value (Hurghiș, 2017).

The aim of this paper is to analyze the integrated or annual reports released for the 2015 fiscal year, as a modality to offer a perspective on the practices used by companies after the introduction of the IIRC Framework in December 2013. The need to analyze this period comes from the time frames covered by the previous researches, explicitly 2010 to 2013, as it is situated before the publication of the IIRC Framework (2013b). Another motivation which gives a greater relevance to this study, is the framework used to assess the reports, as Eccles, Krzus and Ribot (2015) and Lizcano, Muñoz and López (2011) base their researches on the Consultation Draft of the IIRC Framework (2013a). This study uses the IIRC Framework (2013b) in order to score the use of the Guiding Principles in the reports published by European companies.

The paper is structured into six sections. The next section contains a relevant literature review which offers insights on previous researches and IIRC Framework's (2013b). Section three covers the Guiding Principles depicted in the IIRC Framework (2013b), section four describes the research methodology and the studied sample, whereas section five is dedicated to discuss the obtained results. Finally, the conclusions and the limitations of this study are presented in the sixth section.

## 1. Literature review

Previous research on Integrated Reporting, such as Frías-Aceituno, Rodríguez-Ariza and García-Sánchez (2013), García-Sánchez, Rodríguez-Ariza and Frías-

Aceituno (2013) and Hurghiş (2017) have focused on the analysis of the motivations and influencing factors regarding the adoption of the IIRC initiative. Other studies Eccles, Krzus and Ribot (2015), Lizcano, Muñoz and López (2011) and Ruiz-Lozano and Tirado-Valencia (2016) have presented the compliance extent of the integrated reports published by the companies which have responded to the IIRC proposal.

The study prepared by Lizcano, Muñoz and López (2011) analyses the differences between the IIRC Framework's (2013b) requirements and the integrated reports released for the 2010 fiscal year by Spanish companies, found in the Global Reporting Initiative database. The results show that the companies comply with the suggestions to an acceptable extent, but there are issues which need improvement.

The research presented by Eccles, Krzus and Ribot (2015), studies 100 non-South African companies and 24 South African organizations from all economic sectors, which have prepared and presented self-declared integrated reports for the 2012 fiscal period. The results of this study highlights a variation in the compliance level, but on the average the analyzed companies published fairly well prepared integrated reports.

The most recent study, prepared by Ruiz-Lozano and Tirado-Valencia (2016) presents a scored based analysis on the level of attention given to the Guiding Principles by the industrial companies. The results state that in the integrated reports for the 2013 fiscal year, not all the guiding principles are equally followed by the companies.

The main objective of the IIRC Framework (2013b) is to provide a common reporting base, by defining the fundamental concepts regarding integrated reporting and by establishing Guiding Principles and Content Elements that should be found in an integrated report (IIRC, 2013b). The fundamental concepts depicted are the value creation process over short, medium and long term and the Six Capitals – financial, manufactured, human, natural, intellectual, social-relational.

Other objectives of the IIRC Framework (2013b) are:

- Providing adequate information in order to respond to investors' information needs by offering a detailed presentation regarding the organization's decision-making process as well as its consequences.
- Highlighting the interconnections between environmental, social, governance and financial

factors in decisions that influence long-term performance and conditions. An integrated report presents the connection between sustainable development and economic value.

- Providing the necessary context in order to facilitate the reporting process and the inclusion of environmental and social factors in the decision-making process.
- Highlighting long-term performance indicators, not only short-term results.
- Increasing the disclosure of information by presenting data used by management in everyday decisions (IIRC, 2011 cited by Caraiani et al., 2015).

The definition provided by the IIRC Framework (2013b) became the main support for the integration of financial and non-financial items. An integrated report is a concise communication on how an organization's strategy, governance, performance and outlook in the context of its external environment leads to short, medium and long-term value creation (IIRC, 2013b). Moreover, the definition highlights the elements of "architecture" of an integrated reporting system, intended to facilitate the understanding of the activities that occur within a company (Oprisor, Tiron-Tudor and Nistor, 2016).

Integrating financial and non-financial reporting involves providing information for each user and it does not only refer to a document containing combined information. Integrated reporting involves using the Internet in order to give the user the opportunity to customize the integrated report, by using analysis instruments which would enable financial or non-financial analyses. Publishing an integrated report does not automatically lead to the conclusion that organizations will no longer publish more detailed reports with specific information for certain categories of users (Eccles and Krzus, 2010).

The integrated report contains information for all the stakeholders: employees, customers, suppliers, local communities, legislative and tax authorities without ignoring the main goal of presenting the organization's ability to create value over time. The IIRC Framework (2013b) describes the integrated reporting concept through a principle-based approach. It is aimed to create a balance between flexibility and regulation in order to assure the comparability between information provided by companies. The Framework does not propose a set of KPIs, measurement methods or specific information,

but includes requirements in order for the report to be consistent in conformity with the IIRC Framework (2013b).

## 2. The guiding principles

The IR Framework provides seven guiding principles which are to be applied in the process of preparing and presenting an integrated report. This set of principles allows to obtain a proper balance between materiality and relevance, flexibility and prescription, conciseness and demand for information (Ruiz-Lozano and Tirado-Valencia, 2016). The application of the guiding principles requires keen professional judgment in order to diminish any apparent tension between them, as it can be possible that confusing situations or information will arise (IIRC, 2013b). The IIRC Framework (2013b) presents the following principles: Strategic focus and future orientation, Connectivity of information, Stakeholder relationships, Materiality, Conciseness, Reliability and completeness, Consistency and comparability.

*A. Strategic focus and future orientation* – it is necessary that an integrated report should ensure better understanding regarding the strategy of a company and how it contributes to the creation of value in the short, medium and long term, both in terms of capital use and the effects on capital types (Deloitte, 2012). In order to achieve that, a presentation of the risks and the opportunities must be included in the report, as well as showing how the company has learned from the past and present in order to set strategic objectives for the future.

*B. Connectivity of information* - the integrated report should display the interdependence between the factors that influence the capability to create value. The benefit of an integrated report resides in its logical structure and data connectivity and in this context, communication technology can be used to search, connect, customize or analyze information. The most important factors that should be presented with an interrelatedness approach are:

- The content elements have to be connected in order to reflect the interactions between the company's activities as a whole.
- The past, present and future. The past-to-present activities are a perfect source of information that can

be used to define the objectives for the future as well as to measure the efficiency and quality of the current management.

- The capitals. The interdependencies between the six capitals and the variation in their affordability and availability affects the ability to create value.
- Financial information and other information. For example the dependency between revenue or profit growth and long term customer relationships or customer satisfaction.
- Quantitative and qualitative information, which are used in order to define the organization's ability to create value. For example, the KPIs included in an explanation can be a source of information with a higher level of efficiency than the sole presentation of the KPIs' values.

*C. Stakeholder relationships* - an integrated report should show the quality of the relationship with stakeholders, since value is not created only using the organization's efforts, but through relationships with others (IIRC, 2013b). The stakeholders provide useful opinions on matters that the companies have the tendency to ignore, such as environmental and social issues. A solid relationship with the stakeholders is built by disclosing how their needs and interests are understood, and responded to through decisions. The aim of stakeholders' consultation is to obtain essential data which will be used to implement the organization's strategy as well as to make the most appropriate resource allocation decisions (Soyka, 2013).

*D. Materiality* – the integrated report should contain relevant information that has the capacity to affect the value creation process (Deloitte, 2012). The IIRC Framework (2013b) presents a procedure for materiality determination, and it involves: identifying substantial matters based on their ability to influence value creation, evaluating the relevance and prioritizing the matters and determining how much information will be disclosed about the material matters. This procedure will be applied to both positive and negative elements, including risks and opportunities, favorable and unfavorable performance. It will also be applied to financial and non-financial information.

E. *Conciseness* – the company should avoid the disclosure of redundant and less relevant information, as this will affect the decisions of those reading the report. The company should find a balance between Conciseness and the other Guiding Principles, mainly Constancy and comparability. An integrated report is concise if (IIRC, 2013b):

- Uses the materiality determination process.
- Follows a logical structure, uses internal links in order to minimize repetition of information
- Uses external links to reference detailed information that does not change frequently.
- Clearly defines the concepts, using few words and common language, avoiding technical terms that require a high level of expertise to be understood.
- Avoids generic disclosure, which are not a particularity of the company.

F. *Reliability and completeness* – an integrated report will include all material elements, positive or negative, in a balanced way, and without any kind of errors. Reliability, or faithful representation, is increased by mechanisms such as internal control, internal audit and independent, external assurance. An integrated report is considered to be complete if it includes the information needed to make a correct decision. The company has to set the extent of the information presented and its level of preciseness, since this could implicate potential concerns in regard of future objectives, cost/benefit and competitive advantage.

G. *Consistency and comparability* - An integrated report will provide information comparable over time and externally. For example, the company should report the same KPIs every year, unless a substantial change has been made, and the KPIs could be similar to those disclosed by organizations with similar activities.

### 3. Research methodology

#### 3.1. Study population and samples used

The sample of this paper is composed of European companies which have adopted the practices recommended by the IIRC Framework (2013b). By querying the database IR Database Example, a number of 134 companies was obtained. From this data set, companies with reports published for 2015 fiscal year were selected, resulting in 31 companies. The final number of analyzed companies was reduced to 30 (as presented in Appendix 1) by removing Axa’s Sustainability/CSR Report for not being relevant to the study, which will assess only integrated or annual reports.

Table no. 1 shows the sample breakdown by the economic sectors. The most represented sectors are the Financial Services, with 8 operating companies, cumulating 26.67% of the dataset as well as Basic Materials and Consumer Services, both industries covering a percentage of 13.33% of the sample.

Economic Sector	Number of companies	Percentage
Financial services	8	26.67%
Basic materials	4	13.33%
Consumer services	4	13.33%
Industrials	4	13.33%
Consumer goods	2	6.67%
Healthcare	2	6.67%
Real estate	2	6.67%
Technology	2	6.67%
Utilities	2	6.67%

Source: IR Examples Database, available at: <http://examples.integratedreporting.org>, author’s projection

### 3.2. Research method

In order to carry out the research, a combined use of two methods has been applied to the sample. Content analysis and scoring have been used to determine the compliance level of company reports with the requirements of the IIRC Framework's (2013b) regarding its Guiding Principles.

The starting point in this research was the report quality assessment method introduced by Eccles, Krzus and Ribot (2015), which involves comparing the IIRC Framework's (2013b) requirements with companies' integrated reports in order to analyze the extent of compliance. This method was improved by adding the system used by Lizcano, Muñoz and López (2011). That methodology suggests a list containing factors derived from the IIRC Framework's (2013b) Content Elements, which were identified in the reports. The reasoning for including this factor list was the increased degree of objectivity induced by breaking down the Content Elements as well as to facilitate the quality assessment process. Ruiz-Lozano and Tirado-Valencia (2016) also use the same method to evaluate whether the Guiding Principles are followed by the industrial companies.

Therefore, an IIRC Framework's (2013b) requirements analysis was carried out, in order to compose a rating scale, consisting of six Guiding Principles:

- A. Strategic focus and future orientation
- B. Connectivity of information
- C. Stakeholder relationships
- D. Materiality
- E. Conciseness
- F. Reliability and completeness

The Guiding Principle "Consistency and Comparability" was excluded from the analysis because an objective assessment of this principle is difficult to carry out since the study is only conducted in 2015 and this prevents the evaluation regarding the comparability of a company's report from one period to the next. This principle can also be analyzed in order to measure the comparability between the reports published by the companies which operate in similar economic sectors, but the score obtained would not be complete, therefore the assessment of this principle would have little significance for the actual study.

Each item was scored stating from 0 (the lowest score, given when a report does not provide information related to an element) to three (the highest score, given in the case of an excellent description of a certain item). The maximum score a report can reach is 18. Additionally, with the purpose of higher objectivity, a list of items related to the Guiding Principles was created and intermediary scores were used. The sum of intermediary scored was rounded up to zero decimals, to obtain the score per each Guiding Principle. Finally, total scores were calculated for each company and average scores were calculated for each principle.

### 4. Results and discussion

The average score obtained for the compliance with the IIRC Framework's (2013b) requirements regarding its Guiding Principles is 2.19. Four companies have reached the highest scores for all the principles: Aegon, Munich Airport, ING, and Royal DSM. The data presented in **Table no. 2** shows that most of the companies (50%) have obtained a total score ranging from 11 to 14, while at the extremes can be found 5 companies representing 17% of the studied sample.

**Table no. 1. Total scores for the Guiding Principles**

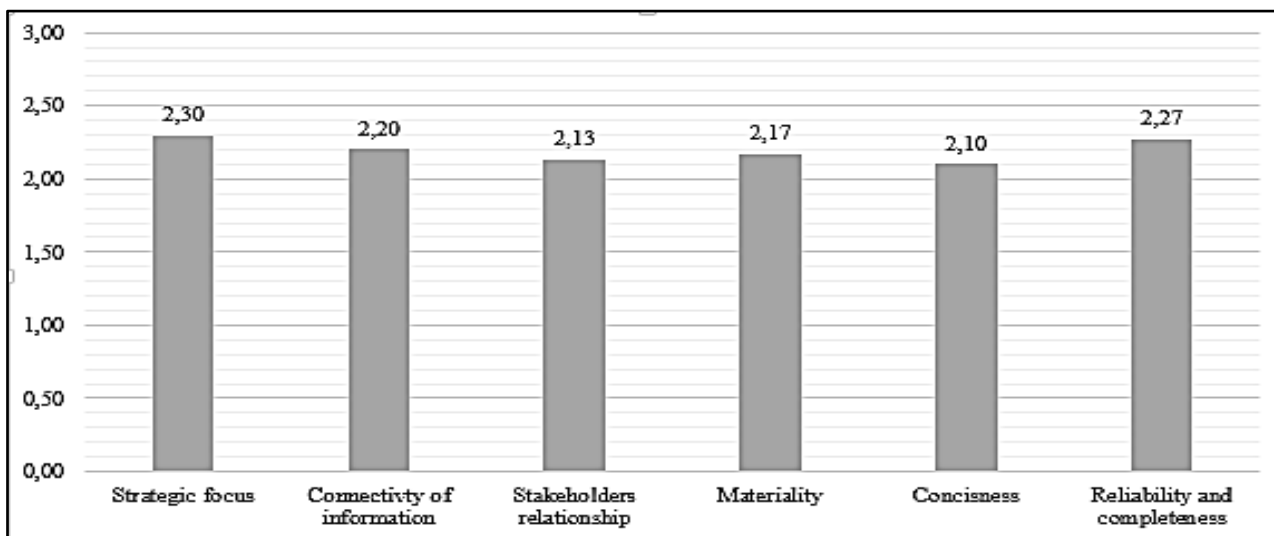
Total score per company	Number of companies	Percentage
17-18	5	16.67%
15-16	5	16.67%
13-14	7	23.33%
11-12	8	26.67%
8-10	5	16.67%

Source: author's projection

The average scores for the Guiding Principles (Figure no. 1), have obtained relatively high values, exceeding two, with a small difference (0.2) between the maximum

and the minimum score. This situation can lead to a preliminary conclusion that the Guiding Principles are respected by Companies to a relatively equal extent.

**Figure no. 1. Average scores for the Guiding Principles**



Source: author's projection.

#### 4.1. Strategic focus and future orientation

The results obtained for this principle show an average score of 2.30, the highest score in the analysis. Most companies (such as FMO, BASF, Novo Nordisk, Royal DSM, ArcelorMittal) have presented potential risks, opportunities and the

strategy to be implemented in their integrated or annual reports. Table no. 3 presents the scores obtained by the companies' reports, reflecting the extent of compliance with the requirements of the IIRC Conceptual Framework (2013b) regarding the Strategic focus and future orientation.

**Table no. 2. Scores obtained by companies for Strategic focus and future orientation**

Score 3	Score 2	Score 1
Achmea	ABN AMRO	British American Tobacco
Aegon	Antofagasta	Dellas
ArcelorMittal	Coca-Cola HBC	Marks & Spencer
BASF	Ferrovial	SGS
enBW	Gecina	
FMO	Go-Ahead	
Generali	National Grid	
ING	Philips	
JSC NIAEP	SAP	
Munich Airport	Swedish Export Credit Corporation	
NordGold	The Crown Estate	
Novo Nordisk	TVEL	
Royal DSM	UBS	

Source: author's projection.

However, the studied companies did not fully comply with the IIRC Framework's (2013b) requirements. Generally speaking, the companies did not include the correlation between strategy and resource allocation in order to achieve the objectives, or its effects on the capitals, as well as the value creating process on short, medium and long time.

#### 4.2. Connectivity of information

Analyzing the average score of 2.20 obtained by the Connectivity of Information, companies comply with the requirements of this principle to an acceptable

level, as shown in **Table no. 4**. A significant part of the studied organizations received high scores for this principle, for example due to the integration of the capitals with the business model (especially ING, Ferrovial, enBW, Munich Airport) or the inclusion of qualitative information which explains quantitative indicators (such as Royal DSM, ArcelorMittal, Coca-Cola HBC). However, presenting the strategy without resource allocation plans and the uncorrelated presentation of financial and non-financial performance reduces the effect of connectivity and integrated thinking promoted by the IIRC.

**Table no. 3. Scores obtained by companies for Connectivity of information**

Score 3	Score 2	Score 1
Achmea	Antofagasta	ABN AMRO
Aegon	British American Tobacco	BASF
ArcelorMittal	Ferrovial	Dellas
Coca-Cola HBC	FMO	Go-Ahead
enBW	JSC NIAEP	SGS
Gecina	National Grid	Swedish Export Credit Corporation
Generali	NordGold	
ING	Novo Nordisk	
Marks & Spencer	Philips	
Munich Airport	The Crown Estate	
Royal DSM	TVEL	
SAP	UBS	

Source: author's projection.

#### 4.3. Stakeholder relationships

This principle has achieved a lower average score compared to the previous principles, of 2.13. The information in **Table no. 5** demonstrates that all

companies, except British American Tobacco which obtained the score 0, identified the main stakeholders and provided more or less information on this matter.

**Table no. 4. Scores obtained by companies for Shareholders relationship**

Score 3	Score 2	Score 1	Score 0
Aegon	ABN AMRO	Antofagasta	British American Tobacco
Coca-Cola HBC	Achmea	BASF	
ING	ArcelorMittal	Ferrovial	
Marks & Spencer	Dellas	Generali	
Munich Airport	enBW	Go-Ahead	
National Grid	FMO	SGS	
NordGold	Gecina	TVEL	
Novo Nordisk	JSC NIAEP		
Philips	SAP		
Royal DSM			
Swedish Export Credit Corporation			
The Crown Estate			
UBS			

Source: author's projection

A smaller part of the studied sample - such as Philips, Novo Nordisk, Royal DSM, Aegon - explained the relationships between organization and stakeholders as well as the extent to which their needs and views are taken into account. This situation is due to the fact that the main category of users of the integrated reports is represented by the capital providers. The IIRC Framework (2013b) state that capital providers are indeed the primary users of information, but it does not offer support to conclude that their interests have a greater importance than those of other stakeholders (Soyka, 2013).

#### 4.4. Materiality

The results in this section show that a significant proportion of companies achieved relatively high scores for this principle. For the Materiality analysis, three scoring criteria were considered: identifying material aspects, presenting a materiality matrix and the materiality determination process. **Table no. 6**

presents the companies' scores, which reflect the conformity level to the requirements of the IIRC Framework (2013b) regarding the Materiality Guiding Principle. None of the studied organizations have obtained the score 0 for this principle, since all of the integrated or annual reports have presented the essential aspects regarding the company's activity. However, only 18 companies presented a materiality matrix and even less described the materiality determination process.

Several companies, such as Coca-Cola HBC, ING, Royal DSM, ArcelorMittal, have presented a detailed explanation of the materiality determination process, and the result is a well-documented materiality matrix. The organizations that have a greater level of compliance with the IIRC Framework's (2013b) requirements in terms of Materiality have included the stakeholders' views in designing the materiality matrix, and, in some cases, the process of materiality determination has been based on these views.

**Table no. 5. Scores obtained by companies for Materiality**

Score 3	Score 2	Score 1
Aegon	NordGold	Novo Nordisk
Coca-Cola HBC	Achmea	The Crown Estate
ING	enBW	Generali
Royal DSM	Marks & Spencer	SAP
Munich Airport	Philips	UBS
ArcelorMittal	BASF	National Grid
Gecina	SGS	Antofagasta
FMO		British American Tobacco
JSC NIAEP		Go-Ahead
Swedish Export Credit Corporation		
Ferrovial		
Dellas		
ABN AMRO		
TVEL		

Source: author's projection.

The results are in concordance with those obtained by Eccles, Krzus and Ribot (2015) who argue that the Materiality has a great importance to the company, and for this reason three coordinates have been analyzed in the mentioned study: identifying essential aspects and material risks, explaining how to mitigate those risks and presenting the materiality matrix. The authors conclude the research on materiality by stating that

organizations identify the essential aspects and risks much better than they are explained.

#### 4.5. Conciseness

This guiding principle has obtained the lowest score, 2.10 and this can be concluded by consulting the bellow table. Half of the studied companies achieved the score 2, score which indicates a general need to

improve the level of conciseness. Some of the companies (such as ArcelorMittal, JSC NIAEP or ING) have made efforts to meet the requirements of the IIRC Framework (2013b), using internal and external references and links in order to facilitate the navigation and to avoid the usage of repetitive information. The information in these reports is presented by following a coherent logical structure.

The low scored reports (especially ABN AMBRO, Ferrovial and Go-Ahead) provide repetitive information, such as the presentation of key performance indicators in the beginning of the report, in order to create a good image on the company's results, then the same indicators are explained in a later specific section.

**Table no. 6. Scores obtained by companies for Conciseness**

Score 3	Score 2	Score 1
Aegon	Achmea	ABN AMRO
ArcelorMittal	BASF	Antofagasta
Coca-Cola HBC	British American Tobacco	Ferrovial
ING	Dellas	Go-Ahead
JSC NIAEP	enBW	SGS
Munich Airport	FMO	TVEL
NordGold	Gecina	
Novo Nordisk	Generali	
Royal DSM	Marks & Spencer	
	National Grid	
	Philips	
	SAP	
	Swedish Export Credit Corporation	
	The Crown Estate	
	UBS	

Source: author's projection.

In a previous study, Eccles, et al. (2012) concluded that the industrial climate change reports use repetitive language. Some findings of this research justify this conclusion. The reports have a high narrative content, but sometimes companies do not fully comply with the requirements of the IIRC Framework (2013b) in terms of Conciseness.

#### 4.6. Reliability and completeness

The principle has obtained a fairly good average rating, of 2.27. **Table no. 8** lists the companies' scores, reflecting the compliance extent to the IIRC Framework (2013b) regarding Reliability and Completeness. Altogether, the companies disclosed enough information to create a clear image on the

past activities. However, few organizations have discussed issues related the practices used in order to verify the presented data, only two modalities to do so have been identified in the studied reports.

One of the methods is the use of internal control and internal audit procedures in order to provide assurance on the accuracy of the information presented in the report. Another modality to give an acceptable level of assurance to stakeholders was to include an external opinions regarding sustainability, environmental and social responsibility issues (two companies to do so are Royal DSM and Philips). It should be noted that most companies focused on providing assurance on financial information by presenting the audit report.

**Table no. 7. Scores obtained by companies Reliability and completeness**

Score 3	Score 2	Score 1
Achmea	ABN AMRO	National Grid
Aegon	Antofagasta	TVEL
BASF	ArcelorMittal	
Coca-Cola HBC	British American Tobacco	
Generali	Dellas	
ING	enBW	
Munich Airport	Ferrovial	
NordGold	FMO	
Novo Nordisk	Gecina	
Royal DSM	Go-Ahead	
	JSC NIAEP	
	Marks & Spencer	
	Philips	
	SAP	
	SGS	
	Swedish Export Credit Corporation	
	The Crown Estate	
	UBS	

Source: author's projection.

## Conclusions and study limitations

The objective of this research has been to assess the level of compliance to the IIRC Framework's (2013b) Guiding Principles. The sample used for this study is composed of 30 integrated or annual reports belonging to companies adhering to the IIRC initiative and the reports were selected if they appeared in the IR Example Database. This study was carried out by using a content analysis and scoring based methodology to monitor the factors mentioned above and the general conclusion is that the companies are situated at different levels of compliance with the IIRC Framework (2013b).

The high ranking companies have obtained good scores for all the analyzed elements, their reports offering the needed information using a logical and easy to follow structure, a great description of value creation process and business model. Those reports are truly integrated, especially when compared with the reports that have obtained lower scores. Although an effort has been made to follow the Guiding Principles, much remains to be done, and the compliance is still in an incipient phase for the bottom ranking companies.

These results are also found by Ruiz-Lozano and Tirado-Valencia (2016). The authors show, in a study that analyses the industrial companies' reports, that not all the Guiding Principles are equally followed by the companies. The strategic approach to information and the relationship between capitals in the process of value creation are proven to have a high level of monitoring. Still, there are other aspects which would require a greater emphasis such as the need for greater engagement of stakeholders in the process of preparing reports or the mechanisms to assure the validity of information. This research has found this description to be in compliance with the analysis results, except that regarding reliability and completeness, there are companies that have made progresses in that area, including in their report explanations on how this matter is handled.

The results and conclusions of the study are limited by the small number of companies that have adapted their reports to suit the IIRC requirements. The IR Example Database provided only 30 integrated or annual reports for 2015, although the IIRC Framework was finalized and published in December 2013. Furthermore, the study is limited to a single continent: Europe. To broaden the boundaries of this

research, incorporating a greater number of reports for more fiscal periods can enable a comparative analysis by years that could show the evolution of Integrated Reporting practices. The study may be limited by the methodology, because the system for allocating ratings to each of the defined factors could introduce a dose of subjectivity in the results. However, this does not negate the conclusions of this study.

## Acknowledgments

The partial results of this research were presented within the Scientific Communication Session held at the Bucharest Academy of Economic Studies and within the International Conference Accounting and Management Information Systems (AMIS 2017). The useful comments and recommendations of PhD. Prof. Chirața Caraiani from the Bucharest University of Economic Studies are very much appreciated.

## REFERENCES

1. ABN AMBRO Group N.V. (2015), Annual Report. Long-term stakeholder value: the heart of our story, available at: [http://examples.integratedreporting.org/resources/8105/ABN\\_AMRO\\_Annual\\_Report\\_2015.pdf](http://examples.integratedreporting.org/resources/8105/ABN_AMRO_Annual_Report_2015.pdf), accessed at 10.03.2017.
2. Achmea (2015), Annual Report, available at: [http://examples.integratedreporting.org/resources/8147/Achmea\\_AR%202015.pdf](http://examples.integratedreporting.org/resources/8147/Achmea_AR%202015.pdf), accessed at 10.03.2017.
3. Aegon (2015), Aegon's 2015 Review. Creating meaningful connections, available at: <http://examples.integratedreporting.org/resources/7946/Aegon-Annual-Review-2015.pdf>, accessed at 10.03.2017.
4. Antofagasta (2015), Annual report and financial statements, available at: <http://examples.integratedreporting.org/resources/6617/Antofagasta%20Annual%20Report%202015.pdf>, accessed at 10.03.2017.
5. ArcelorMittal (2015), Annual Review, available at: [http://examples.integratedreporting.org/resources/6719/Arcelor%20Mittal\\_Annual%20Review%202015.pdf](http://examples.integratedreporting.org/resources/6719/Arcelor%20Mittal_Annual%20Review%202015.pdf), accessed at 10.03.2017.
6. BASF (2015), BASF Report. Economic, environmental and social performance, available at: [http://examples.integratedreporting.org/resources/6524/BASF\\_Report\\_2015%20%281%29.pdf](http://examples.integratedreporting.org/resources/6524/BASF_Report_2015%20%281%29.pdf), accessed at 10.03.2017.
7. Bonila-Priego, J., Font, X. and Rosario Pacheco-Olivares, M. (2014) Corporate sustainability reporting index and baseline data for the cruise industry, *Tourism Management*, no. 44, pp. 149-160, DOI 10.1016/j.tourman.2014.03.004.
8. British American Tobacco (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/8216/British%20american%20tobacco%20annual%20report%202015.pdf>, accessed at 10.03.2017.
9. Caraiani, C., Lungu, C., Dascălu. C. and Colceag. F. (2015), *Green Accounting Initiatives and Strategies for Sustainable Development*, IGI Global, Advances in Finance, Accounting, and Economics, DOI 10.4018/978-1-4666-8720-2.
10. Coca-Cola Hellenic Bottling Company (2015), Integrated annual report, available at: <http://examples.integratedreporting.org/resources/7127/CCH%20Integrated%20Report%202015.pdf>, accessed at 10.03.2017.
11. Dellas (2015), Annual Report. Available at: [http://examples.integratedreporting.org/resources/8642/Dellas\\_AR\\_2015\\_EN.pdf](http://examples.integratedreporting.org/resources/8642/Dellas_AR_2015_EN.pdf), accessed at 10.03.2017.
12. Deloitte (2012), Integrated Reporting. Navigating your way to a truly Integrated Report., available at [https://www.iasplus.com/en/publications/south-africa/other/integrated-reporting-issue-3/at\\_download/file/ZA%20Integrated%20Reporting%20Aug%202012.pdf](https://www.iasplus.com/en/publications/south-africa/other/integrated-reporting-issue-3/at_download/file/ZA%20Integrated%20Reporting%20Aug%202012.pdf), accessed at 01.03.2017.
13. Dima, S., Popa, A. and Farcane, N. (2015), Informațiile financiare și non-financiare în tre raportare sustenabilă și raportare integrată, *Audit Financiar*, vol. XIII, no. 2, pp. 21-33.
14. Eccles, R. G., Krzus, M. P., Rogers, J. and Serafeim, G. (2012), The need for sector specific materiality and sustainability reporting standards, *Journal of Applied Corporate Finance*, vol. 24, no. 2, pp. 65-71, DOI 10.1111/j.1745-6622.2012.00380.x.

15. Eccles, R. and Krzus, M. (2010), *One Report - Integrated Reporting for a Sustainable Society*, Hoboken, New Jersey: John Wiley & Sons Inc., DOI 10.1002/9781119199960.
16. Eccles, R., Krzus, M. and Ribot, S. (2015), *The Integrated Reporting movement*, Hoboken, New Jersey: John Wiley & Sons Inc.
17. EnBW (2015), Integrated Report, available at: <http://examples.integratedreporting.org/resources/6374/enbw-2015%20Annual%20Report.pdf>, accessed at 10.03.2017
18. Ferrovial (2015), Integrated Annual Report, available at: [http://examples.integratedreporting.org/resources/7997/Ferrovial\\_Integrated%20Annual%20Report\\_2015.pdf](http://examples.integratedreporting.org/resources/7997/Ferrovial_Integrated%20Annual%20Report_2015.pdf), accessed at 10.03.2017
19. FMO (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/7013/FMO%20Annual%20report.pdf>, accessed at 10.03.2017
20. Frías-Aceituno, J., Rodríguez-Ariza, L. and García-Sánchez, I. (2013), Is integrated reporting determined by a country's legal system? An exploratory study, *Journal of Cleaner Production*, vol. 44, pp. 45-55, pp. 10.1016/j.jclepro.2012.12.006.
21. García-Sánchez, I., Rodríguez-Ariza, L. and Frías-Aceituno, J. (2013), The cultural system and integrated reporting, *International Business Review*, vol. 22, no. 5, pp. 828-838, DOI 10.1016/j.ibusrev.2013.01.007.
22. Gecina (2015), Integrated Annual Report, available at: [http://examples.integratedreporting.org/resources/8609/Gecina\\_IntRep\\_2015.pdf](http://examples.integratedreporting.org/resources/8609/Gecina_IntRep_2015.pdf), accessed at 10.03.2017
23. Generali (2015), Annual Integrated Report and Consolidated Financial Statements, available at: <http://examples.integratedreporting.org/resources/6782/Annual%20Integrated%20Report%20and%20Consolidated%20financial%20statement%20Generali%20Group%202015.pdf>, accessed at 10.03.2017
24. Go-Ahead (2015), Annual Report and Accounts, available at: <http://examples.integratedreporting.org/resources/4747/Go-Ahead%202015.pdf>, accessed at 10.03.2017
25. Hurghiș, R. (2017), Integrated reporting and Board features, *Audit Financiar*, vol. XV, no. 1(145), pp. 21-30, DOI 10.20869/auditf/2017/145/83.
26. IIRC (2011), *Towards Integrated Reporting. Communicating Value in the 21st Century*, available at [http://integratedreporting.org/wp-content/uploads/2011/09/IR-Discussion-Paper-2011\\_spreads.pdf](http://integratedreporting.org/wp-content/uploads/2011/09/IR-Discussion-Paper-2011_spreads.pdf), accessed at 28.02.2017.
27. IIRC (2013a), Consultation draft of the international <IR> Framework, available at <http://integratedreporting.org/wp-content/uploads/2013/03/Consultation-Draft-of-the-InternationalIRFramework.pdf>, accessed at 07.03.2017.
28. IIRC (2013b), The International <IR> Framework, available at <http://integratedreporting.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf>, accessed at 01.03.2017.
29. ING Group (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/5945/ING%202015%20Annual%20Report.pdf>, accessed at 10.03.2017,
30. Lizcano, J., Muñoz, F. and López, M. (2011), El informe integrado: primeras aproximaciones de aplicación. El caso español, *ASOCIACIÓN ESPAÑOLA DE CONTABILIDAD Y ADMINISTRACIÓN DE EMPRESAS (AECA)*, available at [http://aeca.es/old/comisiones/rsc/estudio\\_empirico.pdf](http://aeca.es/old/comisiones/rsc/estudio_empirico.pdf), accessed at 03.10. 2017.
31. Lungu, C. Caraiani, C. and Dascălu, C. (2011), Cercetări privind raportarea responsabilității sociale corporative, *Amfiteatru Economic*, vol. XIII, no. 29, pp. 117-131.
32. Marks & Spencer (2015), Annual Report & Financial Statements, available at: <http://examples.integratedreporting.org/resources/5037/M%26S%202015.pdf>, accessed at 10.03.2017.
33. Munich Airport (2015), Integrated Report, available at: [http://examples.integratedreporting.org/resources/7718/Munich%20Airport\\_Integrated%20Report\\_2015.pdf](http://examples.integratedreporting.org/resources/7718/Munich%20Airport_Integrated%20Report_2015.pdf), accessed at 10.03.2017.
34. National Grid (2015). Annual Report and Accounts, available at: [http://examples.integratedreporting.org/resources/5426/National%20Grid\\_Annual%20Report%202015\\_FULLL.pdf](http://examples.integratedreporting.org/resources/5426/National%20Grid_Annual%20Report%202015_FULLL.pdf), accessed at 10.03.2017.
35. JSC NIAEP (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/7529/ASE%20Group%20annual%20report.pdf>, accessed at 10.03.2017.

36. Nord Gold (2015), Integrated Report, available at: [http://examples.integratedreporting.org/resources/7358/Nordgold\\_2015\\_IR\\_M.pdf](http://examples.integratedreporting.org/resources/7358/Nordgold_2015_IR_M.pdf), accessed at 10.03.2017.
37. Novo Nordisk (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/6008/Novo%20Nordisk%202015%20Annual%20report.PDF>, accessed at 10.03.2017.
38. Opreșor, T., Tiron-Tudor, A. and Nistor, C. (2016), The integrated reporting system: a new accountability enhancement tool for public sector entities, *Audit Financiar*, vol. XVI, no. 7(139), pp. 690-704, DOI 10.20869/auditf/2016/139/747.
39. Philips (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/8501/Full%20Annual%20Report-%20Philips%202015.pdf>, accessed at 10.03.2017,
40. Royal DSM (2015), Integrated Annual Report, available at: <http://examples.integratedreporting.org/resources/6059/DSM-Annual-Report-2015.pdf>, accessed at 10.03.2017.
41. Ruiz-Lozano, M. and Tirado-Valencia, P. (2016), Do industrial companies respond to the guiding principles of the Integrated Reporting framework? A preliminary study on the first companies joined to the initiative, *Spanish Accounting Review*, vol. 19, no. 2, pp. 252-260, DOI 10.1016/j.rcsar.2016.02.001.
42. SAP (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/6437/SAP%20%20SE%202015%20Annual%20Report.pdf>, accessed at 10.03.2017,
43. SGS (2015), Annual Report, available at: <http://examples.integratedreporting.org/resources/5909/SGS%202015%20Annual%20Report.pdf>, accessed at 10.03.2017.
44. Soyka, P. (2013), The International Integrated Reporting Council (IIRC) Integrated Reporting Framework: Toward better sustainability reporting and (way) beyond, *Environmental Quality Management*, vol. 23, no. 2, pp. 1-14, DOI 10.1002/tqem.21357.
45. Swedish Export Credit Corporation (2015), Annual Report, available at: [http://examples.integratedreporting.org/resources/7469/SEK\\_AR\\_2015\\_EN.pdf](http://examples.integratedreporting.org/resources/7469/SEK_AR_2015_EN.pdf), accessed at 10.03.2017.
46. The Crown Estate (2015), Annual Report, available at: [http://examples.integratedreporting.org/resources/4484/The%20Crown%20Estate\\_Annual%20Report%202015.pdf](http://examples.integratedreporting.org/resources/4484/The%20Crown%20Estate_Annual%20Report%202015.pdf), accessed at 10.03.2017.
47. TVEL (2015), Annual Report, available at: [http://examples.integratedreporting.org/resources/8582/ANNUAL\\_REPORT\\_TVVEL%2B2015.pdf](http://examples.integratedreporting.org/resources/8582/ANNUAL_REPORT_TVVEL%2B2015.pdf), accessed at 10.03.2017.
48. UBS (2015), Annual Review, available at: [http://examples.integratedreporting.org/resources/6668/UBS\\_annual-review-2015-en.pdf](http://examples.integratedreporting.org/resources/6668/UBS_annual-review-2015-en.pdf), accessed at 10.03.2017.

<b>Appendix 1. List of studied companies</b>					
<b>Company</b>	<b>Economic sector</b>	<b>Country</b>	<b>Company</b>	<b>Economic sector</b>	<b>Country</b>
ABN AMRO	Financial services	Netherlands	ING	Financial services	Netherlands
Achmea	Financial services	Netherlands	JSC NIAEP	Industrials	Russia
Aegon	Financial services	Netherlands	Marks & Spencer	Consumer goods	United Kingdom
Antofagasta	Basic materials	Chile (listed on LSE)	Munich Airport	Consumer services	Germany
ArcelorMittal	Industrials	Luxembourg	National Grid	Utilities	United Kingdom
BASF	Basic materials	Germany	NordGold	Basic materials	Russia
British American Tobacco	Consumer services	United Kingdom	Novo Nordisk	Healthcare	Denmark
Coca-Cola hbc	Consumer goods	Switzerland	Philips	Technology	Netherlands
Dellas	Industrials	Italy	Royal DSM	Healthcare	Netherlands
enBW	Utilities	Germany	SAP	Technology	Germany
Ferrovial	Professional services	Spain	SGS	Consumer services	Switzerland
FMO	Financial services	Netherlands	Swedish Export Credit Corporation	Financial services	Sweden
Gecina	Real estate	France	The Crown Estate	Real estate	United Kingdom
Generali	Financial services	Italy	TVEL	Basic materials	Russia
Go-Ahead	Consumer services	United Kingdom	UBS	Financial services	Switzerland

---

# Organizational culture and internal control

---

**Sorin DOMNIȘORU,**  
University of Craiova,  
E-mail: domnisorusorin@yahoo.com

**Radu OGARCĂ,**  
University of Craiova,  
E-mail: rfogarca@yahoo.com

**Isabela DRAGOMIR,**  
University of Craiova,  
E-mail: isabela\_dragomir@yahoo.com

## Abstract

*The paper proposes investigating the relationship between the organizational culture and internal control. The approach is a qualitative, constructive one. There is asserted and argued the thesis according to which between the two elements there is a one-to-one relationship, going on up to an extended overlapping between the organizational culture and the internal control environment. Though, our work emphasizes also the potential differences and distortions which may appear within the organizational activity between these important elements.*

*The identification of several factors which may enhance the synergy between the organizational culture and internal control, respectively the description of possible entities, processes and organizational relationships through which there could be made corrections and reciprocal adjustments between the two elements are the main results of the present research, with theoretical importance for the scientific and practical research for the organizational management and audit.*

**Keywords:** Organizational culture, internal control, management, control environment

**JEL Classification:** M10, M14, M49

### To cite this article:

Domnișoru, S., Ogarcă, R. and Dragomir, I. (2017), *Organizational culture and internal control*, Audit Financiar, vol. XV, no. 4(148)/2017, pp. 628-643, DOI: 10.20869/AUDITF/2017/148/628

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/628>

Received: 03.05.2017

Revised: 10.07.2017

Accepted: 11.07.2017

## Introduction

The internal control and organizational culture are two widely approached themes in the economic literature of the last decades. Nevertheless, the concepts have not been entirely clarified, their definition still having debatable areas.

The concept of internal control appeared as a practice in the USA at the beginning of the 20<sup>th</sup> century, whereas in the economic literature it began to be extensively approached after the '50s (Hay, 1993).

In 1992 the Committee of Sponsoring Organizations of the Treadway Commission (COSO) issued the document "The Internal Control - General Framework", which, up to a certain extent, has brought a certain global alignment of practice and literature on this concept. Apostolou and Crumbley (2008) consider that, following this report the internal control (a much older concept strictly within the field of accounting) has extended its boundaries from the financial and accounting function to the entire entity.

The financial scandals at the beginning of the 2000s (Enron, Worldcom, Parmalat, etc.) led to the occurrence of the Sarbanes-Oxley law, which focuses on the efficiency of the enterprise's internal control system and on its rigorous/responsible assessment. This fact emphasizes the idea that the concept of "internal control" and the system of internal control should be clearly defined. Ambiguities should be eliminated also in respect of the implementation and assessment of the internal control system (Lakis and Giriunas, 2012).

In the last half of the century, especially influenced by the recent regulations mentioned above, the concept of "internal control", in some authors' view, "has gone out of haze" (Renard, 2016). In our view, it does not mean that there has been reached an unchangeable definition, but rather that a nucleus can be retrieved from all definitions, both from professional bodies, and researchers.

On the other hand, the organizational culture became a research theme for the researchers in the organizational field around the 1970s. According to Teehankee (1994), the first authors who used and/or tried to define the concept of organizational culture were: Margulies (1969); Beckhard (1969) – who uses the concept but does not define it; Schein (1968) – he used the phrase "organizational socialization", but the given definition could be considered close to that of organizational culture.

In the '80s, on the background of Japanese firms' spectacular performance growth, paralleled by the decrease of American companies' performance, and the review of some managerial theories under the influence of these developments, respectively, a series of authors investigated the manner in which the organizational culture contributed to the organizations' performance (Ouchi, 1981; Peters and Waterman, 1982; Deal and Kennedy, 1982). The success of these papers turned the organizational culture into a widely approached topic in the professional literature related to organizations (Plakhotnik and Tonette, 2005).

Generally, the relationship between control and organizational culture has been in its turn widely studied (Andersen and Lueg, 2016). In these papers culture is seen as an element generating particular forms of organizational control. Thus, Ouchi (1980) speaks about the clan type control (accompanied by two other control mechanisms - market and bureaucratic control), based on common values and beliefs. Jaeger (1982) identifies two control styles within the multinational companies: formal, bureaucratic control – based on clear rules and regulations; and informal, cultural control – based on the existence of an implicit culture within the organization. Ray (1986) identifies three approaches of organizational control: bureaucratic (based on the control of compensations); humanistic (based on group social relationships) and the control through culture (based on the manipulation of the organization culture aimed at gaining attachment towards the organization and its objectives).

Rather surprisingly, the papers addressing the relationship between the internal control (as defined by the international professional bodies in the field) and the organizational culture are less visible.

Pfister (2009) encloses the most substantial approach of the relationship between organizational culture and internal control. The author identifies two challenges for his research: capturing the effect of organizational culture on the internal control efficiency and capturing the manner in which the internal control mechanisms influence the organizational culture. In order to answer these two challenges, the author proposes a control-organizational culture framework. Unlike the researches within the accounting field, Pfister (20019) points out that in his approach culture is a variable which might be influenced by top-management, and not a contextual variable.

Carataș et al. (2013) consider that, to maximise the organizational profit, the internal control should “match” the organizational culture, and that the organizational culture could be seen as the cornerstone for a sound internal control.

Lu and Wenchang (2015) analyse the relationship between organizational culture and internal control in terms of corporate governance mechanisms, approached from a humanistic perspective; the study emphasise the idea that the integration of the internal control and organizational culture may contribute to the sustainable development of the organization.

Gamboa Poveda et al. (2016) take inventory of the Spanish literature approaching the relationship between the organizational culture and internal control. The three authors’ observation is that there are few articles having organizational culture or internal control as a main topic (in the title, keywords or abstract). The conclusion after reading the aforementioned literature is that, in the relationship with the internal control, culture may have a mediator effect (similarly as it has in the relationship with leadership and knowledge management, which are both variables used to extended the search).

Although Hernandez et al. (2016) limit their research at the level of small businesses, they come to a similar conclusion: internal control is a necessary, but not sufficient condition for good business management, performance measurement and profit increase. Moreover, the internal control system must be connected to the organizational culture.

Thus, we find out that the literature approaching the relationship between internal control and organizational culture is not very wide and, in addition, some of the papers mentioned above are limited to emphasizing the need of “matching” the two organizational elements, without going in-depth with the analysis.

In this context, the objective of our paper is to deepen the analysis of the interactions between the internal control and organizational culture, emphasizing the factors which might amplify the synergy between the two concepts and the sources of potential inaccuracies.

## 1. Methodology of scientific research

The development of the article is based on a descriptive, qualitative research which resorts to an interpretative process of the subject matter under consideration. The paper considers the views from the professional

literature on the meanings of the two concepts whose interconditionality is intended to be emphasized. Combining the authors’ theoretical vision and experience in management, control and governance, an attempt was made to bring into the theoretical area both the undesirable corporate events regarding the incapacity, disinterest or ignorance of the correlation between the internal control system and the organizational culture, and the good/leading examples of a balanced interlocking of organizational culture and internal control.

By study and comparison, there have been pointed out the similarities, discrepancies, and mostly subtle interpretations regarding the mentioned concepts with the purpose to show the importance of the relationship between them, without raising the claim of an exhaustive work.

## 2. Review of the relevant professional literature

The interest for the organizational culture and internal control was recovered along with the famous corporate failures (brought to the public’s attention by the dot.com crisis, during 1999-2000, and later on, during the global financial crisis that started in 2007), as a desire to accomplish an ample examination of the causes which generated them.

The common basis of these events was the lack of responsibility at all the organizational levels, the remuneration systems encouraging unsustainable short-term approaches, self-satisfaction induced by the long periods of prosperity, the rigidity and lack of proactivity, and last but not least, the human greed (Association of Chartered Certified Accountant, 2008).

Basically, the analysis of these events directed the attention, among other things, to the internal control and risk management, with an impact on the organizational culture, but all related to governance.

Therefore, in these cases the issue came up regarding the lack of ethical culture, supported by the management. Taking this fact into account, all recommendations for preventing similar situations also consider the organizational culture. Biegelman and Bartow (2012) state that only a culture of compliance not only with the law, but also with the principles of honesty and integrity represent the proactive solution for

preventing some organizational mistakes. Similarly, IFAC speaks about the need to develop a culture to stimulate the organization's members to act in accordance with the risk management strategies and internal control policies, where the personal example of top-management has an important role (IFAC, 2012).

The organizational culture, figuratively speaking, represents the DNA of an entity, the "compass" orienting the attitude and conduct of the entity's employees. The employees are not "cells" left to chance; on the contrary, they are guided by the managers in their actions to achieve the entity's objectives. Given these conditions, a real challenge for leadership is setting up values and beliefs at the entity's level, in line with its advancement (Tabuena, 2016). Inevitably, the leaders permanently want to be sure that their guidance efforts do not deviate from the entity's path to success, so they need levers to assist them. In this respect, we consider the internal control, in the modern sense, as the system that consistently contributes to the entity's well-being, due to the fact that, among others, it facilitates the decision-makers' access to good quality information.

Coming back to the unfortunate reality of the events mentioned, there is no doubt that the failure was generated by the leaders' lack of ability to create efficient mechanisms allowing the detection of (apparently insignificant) warning signals, useful for the prevention of disasters (KPMG, 2009).

The question arising is: *"Which are the mechanisms that have the force to assert the quality of the entity's systems, processes and outcomes and to sound the alarm when monotony is established and the path is taken towards "good pleasure" and „today and after that dash it all!", but, more importantly, what are the implications for organizational culture in all these aspects?"*

In our view, the organizational culture is responsible for creating and maintaining the perceptions among the employees and the manner in which they agree, accept and respect all the processes developed within the entity, including the leaders' authority and following their ideas, but also the procedures and measures they consider efficient to ensure the entity's performance. This vision also embodies the attention given to the internal control with role in ensuring that the path followed by the entity does not divert from the achievement of its objectives.

Therefore, there is no surprise that both the professional literature (Pfister, 2009; Carataş et al., 2013; Lu and Wenchang, 2015; Gamboa Poveda et al., 2016), and the

various organizations/entities of international impact (KPMG, 2009; United States General Accounting Office, 1999) considered necessary that both culture and control be convergent and socially responsible.

For a better understanding of the synergy force of the two elements – organizational culture and internal control – in order to ensure an entity's success, we considered appropriate to expand the conceptual framework (conceptual versions) brought into discussion, but limited to some of the meanings of the two concepts described into the professional literature. The purpose of this endeavour is that of joining as much evidence as possible to ensure the sustainability of the research we initiated; we will point out strictly the concepts that we consider in accord with what we want to emphasize.

Thus, Schein (1990) defines the organizational culture as "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems".

On the other hand, "the organizational culture consists of interactions among critical masses of people with different preferences and past choices that have the capacity to wield critical influences upon each other, both in the short and long terms, within and beyond the confines of organizations and resource constraints" (Wu, 2008).

Mostly relevant for our research is also the idea advanced by Gerstner (2004), who considers: "the organizational culture is what people do without being told to".

By analysing and interpreting the content of these three assertions, we can state that they capture well the manner of running the actions within an entity and the interconnections created within it when the employees perform their tasks, as well as the guidance provided by the managers.

Schein (1990) describes the manner of building the organizational culture, its validation by the daily realities, but also its share between the organization's members. Although without an express mention, we consider that it is inherited the fact that the definition comprises both the leaders and the internal control which strengthens the opinions by the supplied information that the beliefs are right ("assumptions which functioned well enough to be considered valid"), meaning that they are in accordance

with the entity's philosophy and could be passed on to the new members of the entity.

The meaning given by Wu (2008) describes the efforts of the leaders who pursue to build real families within the entity, which work together to achieve the same goal. In this case there can also be seen the presence of the control performed by leaders through their own approaches, decision and actions, by being always connected to the internal environment in order to know at any moment that the personnel does not divert from the organization's philosophy. If the management finds that the entity's activity is going the wrong way, it must take the right measures for the given situation in order to prevent it from taking a chronic form.

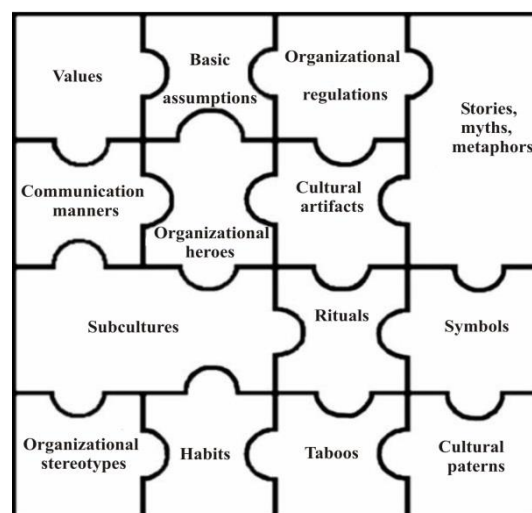
In a positive, and even non-realistic interpretation if confronted with the truth of the daily realities, of the definition given by Gerstner (2004) reveals the ideal of symbiosis between the organizational culture and internal control, in the sense that: the leaders' efforts to create a pro-active working environment tend to be reached, the induced state of control is one to encourage the creativity and it inhibit the immoral or incorrect actions as reported to the culture philosophy; the employees develop the ability to harmonize and line up their personal culture to the entity's organizational culture, knowing what to do and acting accordingly to support the entity's goals. If we revert to reason, we

agree that in order for the employees' actions to bring added value to the entity, the support of an internal control mechanism that is discrete, and at the same time efficient and motivating is necessary.

These approaches are interesting, but are more inclined to emphasize the philosophic, spiritual side of the organizational culture without bringing enough "technical" aspects into the mix. Therefore, for a rigorous presentation, we find it necessary to quote The Business Dictionary, which considers the organizational culture as being the set of values and behaviours that contribute to the unique social and psychological environment of the entity that expresses in its self-image, activities and actions based on:

- the manner of organizing the activity, the attitude towards the employees, clients, as well as towards the entire community;
- the extent to which the controlled freedom is allowed in the process of decision-making, encouraging the development of new ideas and personal presentations;
- the manner of communication, information flow and interpersonal/structural relationship;
- the impression induced by the employment and career management policies and practices in order to achieve the common purposes.

**Figure no. 1. The organizational culture puzzle**



Source: Adaptation after Sulkovsky (2012)

As it can be noticed, all the meanings we presented consider the organizational culture as bearing spiritual and customary valences. We consider that the organizational culture is not only a piece in a puzzle, but the entire puzzle, whose composition is clear and detailed, being created and refined over time. The power of this puzzle should not be neglected, because it impacts the manner in which the entity runs its activity (using the metaphor launched by Professor Sumantra Ghosal, 2005).

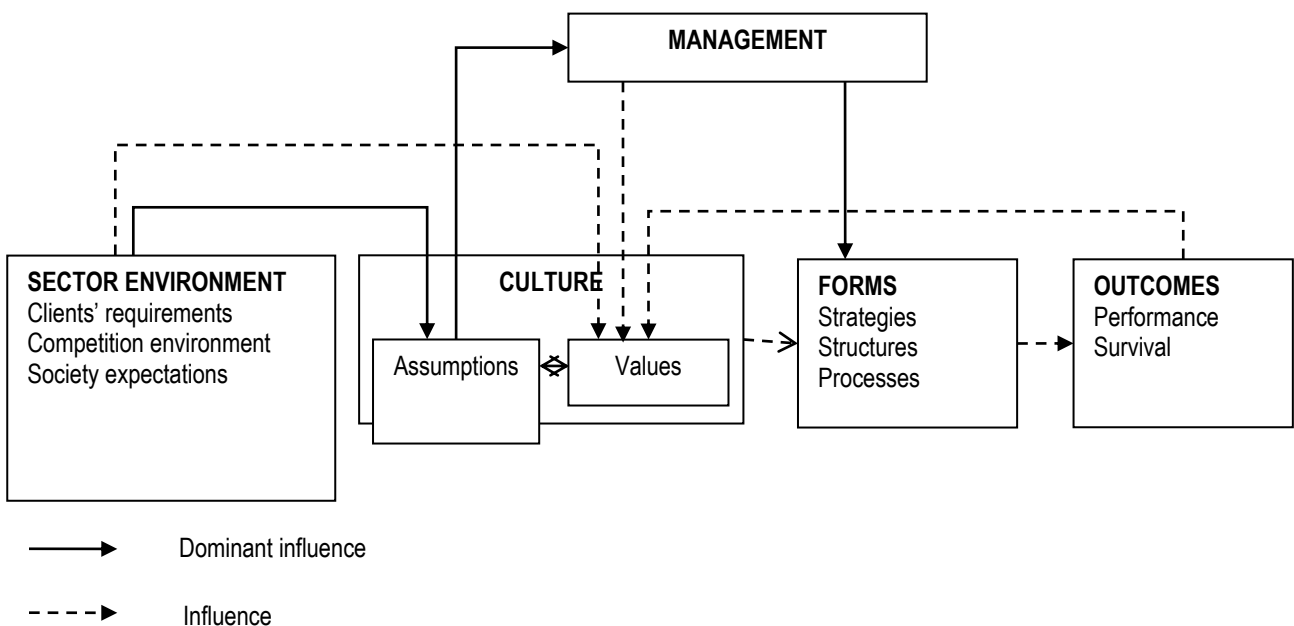
For clarity, in **Figure no. 1** we supplied the main and defining elements of the organizational culture, which are ensuring its guidance and, at the same time, contribute to modelling the behaviours of the employees and the systems within the entity, but, to some extent, also influence those in contact with the entity. With regard to the components of the organizational culture, there are a lot of points of view in the professional literature and quite many doubts regarding their theoretical significance and practical scope. We chose what Sulkovsky (2012) considers, following the review of the most significant papers on this theme, to be a “canon” of the organizational structure components.

Of course there could be discussed the manner in which these elements contribute to the connectivity with the

internal control, but we will limit our consideration to one of them, for example, habits. They may go from an alarming passivity up to enthusiastic proactivity. Obviously, each of these states of mind induces a certain culture to be faced by the internal control: in the first case it will have to fight against overwhelming inertia, whereas in the second case it will exult in innovation.

In our view, the organizational culture is not a shapeless and rigid mass, but a delicate, only relatively flexible “substance” which should grow consonantly with the necessary changes for ensuring the development of the reference entity. In our opinion, success depends on the leaders’ ability to skilfully correlate/adapt/transform the elements of the organizational culture in accordance with the requirements of the evolution imposed by the external environment (without neglecting the internal one) and, in this context, their capacity to implement practical solutions (strategies, structures, processes) so that the entity could face any challenges. Otherwise, it is doomed to failure. The model proposed by Gordon (1991) regarding the development of the organizational culture under the influence of the industry-specific environment is in line with these coordinates (**Figure no. 2**).

**Figure no. 2. Organizational culture - determinants and incidence**



Source: Gordon (1991)

Further on, we focus on internal control. Many definitions of internal control can be identified within the professional literature (relevant review of the literature on this topic could be found in Gafarov, 2009; Arwinge, 2014). The recent definitions are based mostly on the definition developed by COSO (1992), according to which internal control is “a process, effected by an entity’s board of directors, management and other personnel, designed to provide reasonable assurance of the achievement of objectives in the following categories: effectiveness and efficiency of operations; reliability of financial reporting; compliance with applicable laws and regulations”.

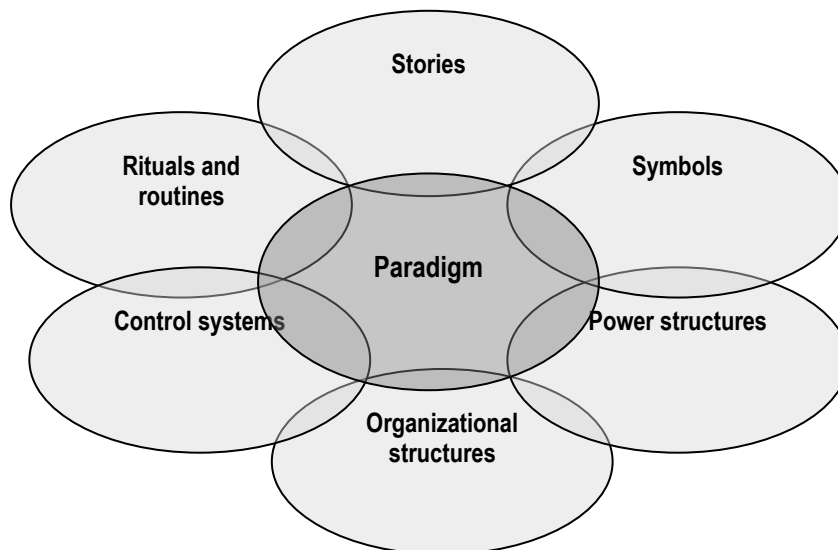
Considering that we pointed out enough elements to understand both the organizational culture and the internal control, we can move on to the development of the relationship description between these two: the manner in which internal control helps or does not help the organizational culture to “face the new challenges”. Thus, due to the fact that the organizational culture is

given by the principle of achieving things within the entity, the internal control shows if the manner of action has an appropriate direction in comparison with the entity’s goals because it analyses the manner of achieving the actions and warns on the deviations which have occurred, or might occur, while offering the suggestions necessary for correcting them, going up to making all the actors socially responsible.

An interesting concept useful for our research was introduced by Johnson (1987). He speaks about the cultural web of the organization where he also includes the control systems (Figure no. 3).

The paradigm brings together the beliefs and values of the organization. It is remarkable that among the elements of the cultural web there are included the control systems and organizational structures which the professional literature does not generally place within the organizational culture frame and which are strongly connected to it.

**Figure no. 3. Cultural web of an organization**



Source: Johnson, 1987

Sulkovski (2012) considers, and we agree with this view, that including the control systems and organizational structure into culture is equivalent to the impossibility of treating them as organizational sub-systems, similarly to the organizational culture. The analysis of any of the

relationships between them would become thus irrelevant. Although the organizational structure and control systems have an important cultural determinant, they are not components or exclusive occurrences of the organizational culture.

In this respect, Allaire and Firsirotu (1984) identifies three interconnected components within the organization:

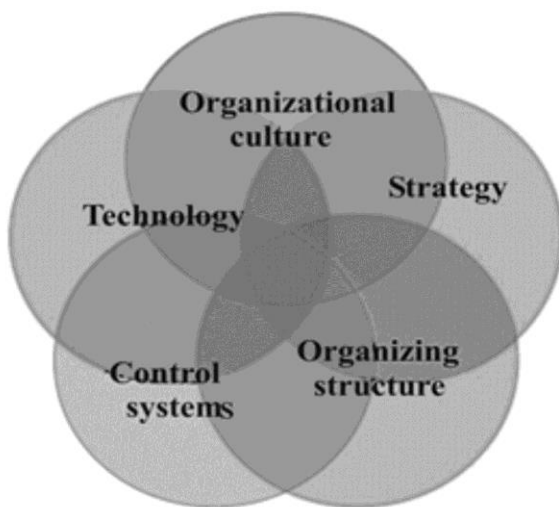
- The social & cultural system – comprising formal structures (including the control mechanisms), strategies, policies, processes;
- The cultural system – practically the organizational culture;
- The individual actors who relate to and interact differently with these systems in accordance with their own capacities, experiences, personalities.

The social & cultural system and the cultural system are found, in the two authors' view, in a complex relationship, which is "mutually supportive", in "normal" conditions, but may become very tense, particularly when there are sudden pressures for organizational changes. Generally, the changes that occur more easily within the social & cultural system cannot mirror themselves equally rapid within the cultural system, a fact leading to dissonance and loss of synchronism (Allaire and Firsirotu, 1984).

Finally, to better understand the relationships that may appear between the organizational culture and internal

control, we consider that it is necessary to go back to the theoretical and practical approaches of organizational culture. Smirchich (1983) differentiated between the organizational culture as a variable and the organizational culture as a basic metaphor. In the first case, culture is seen as a variable among many others within the organization (structure, strategy, communication), which can be changed by management, as an organizational instrument to obtain performance. In the second case, culture is represented by a web of meanings and interpretations, socially disseminated and shared, with an axiological role, influencing every organizational component. Its developments are organic, generated by the aspirations, needs and desires of the organization's members at all levels, and they cannot be imposed by management. In the first approach, there is considered that the organization has a culture, whereas in the second one, the organization *is* a culture (Smirchich, 1983). In **Figures no. 4** and **no. 5** there are displayed the interactions between the organizational culture and other organizational systems (including the control systems) in terms of the two approaches.

**Figure no. 4. Culture as subsystem within the organization** | **Figure no. 5. Culture as metaphor: fundamental dimension entering the other systems**



Source: Authors' design

Using these two figures we try to synthetically emphasise two of the interaction mechanisms. Thus, in the first case, culture is considered only as a common system, whereas, in the second case, they all “stem” from culture. Alevesson (2002) considers that the two approaches are not the only possibilities, but they are the extremes of a continuum, point of view to which we subscribe and on which we will build our arguments hereinafter. Therefore, we estimate that it is possible to consider integrally the interactions between culture and control only within some holistic approaches; individually they would lose essence. Based on this, we ascertain and assert the following ideas.

### 3. Results of the research

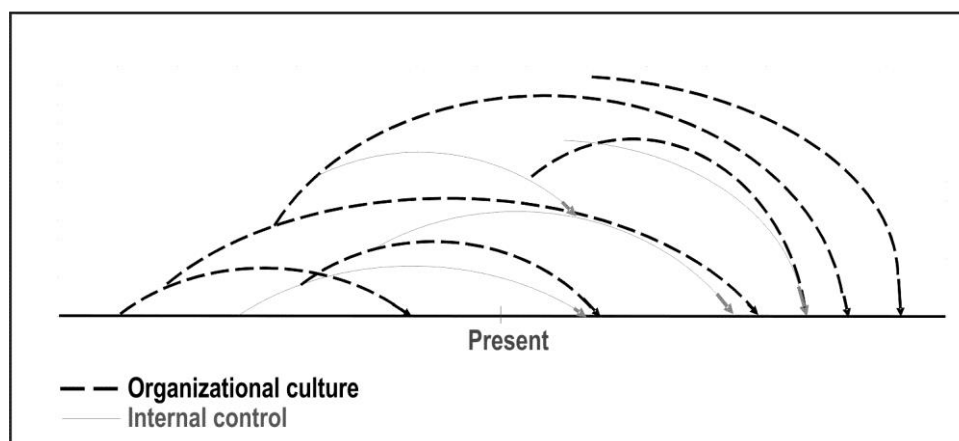
#### 3.1. Organizational culture - the „land” where internal control grows

Guided by the above ideas, we consider the organizational culture as a source of control which creates a certain type of required spirits and attitudes, in order to teach, and even model behaviours, leading to the achievement of the entity’s objectives. On the other hand, the effective internal control creates the spirits capable of “ensuring an environment dominated by comfort, stability and trust in terms of the organizing and functioning manner of the entity” (Domnișoru and Vinătoru, 2008).

All these make us estimate that while the organizational culture has rather historical valences, coming from the ancient past and it approaches the present rather strategically and forecasts only the fundamentals of the remote future, the internal control is (should be) sort of flexible and adjustable, remarkably tactile and rather directed towards recent history and predictable future, as it is presented in **Figure no. 6**. It should not be understood that one domain is neglected by the other, but they are focused slightly different in terms of chronology in order to get the same outcome: successful achievement of the entity’s goals.

We consider the organizational culture as the most important driving force of any of the entities, being omnipresent in the configuration of the entity’s structure, including in the design of the control system by setting the perceptions and configuring the working environment. Moreover, and more applied for our topic, as the Institute of Internal Auditors states, as well as Pfister (2009), that the culture of an organization is essential mostly for the effectiveness of internal control processes and systems. When the organizational culture is hostile, no system of internal control can be efficient (IIA, 2014), as it will have rigid, police-like issues inhibiting creativity and, implicitly, the possibility of innovation. Wright (2009) points out the fact that the organization members’ attitudes and actions influence the internal controls, respectively the approaches are strongly influenced by the states of mind. This fact has cultural impacts as we consider the culture as the strongest shaper of the individual states of mind.

**Figure no. 6. Timeline of the organizational culture and internal control**

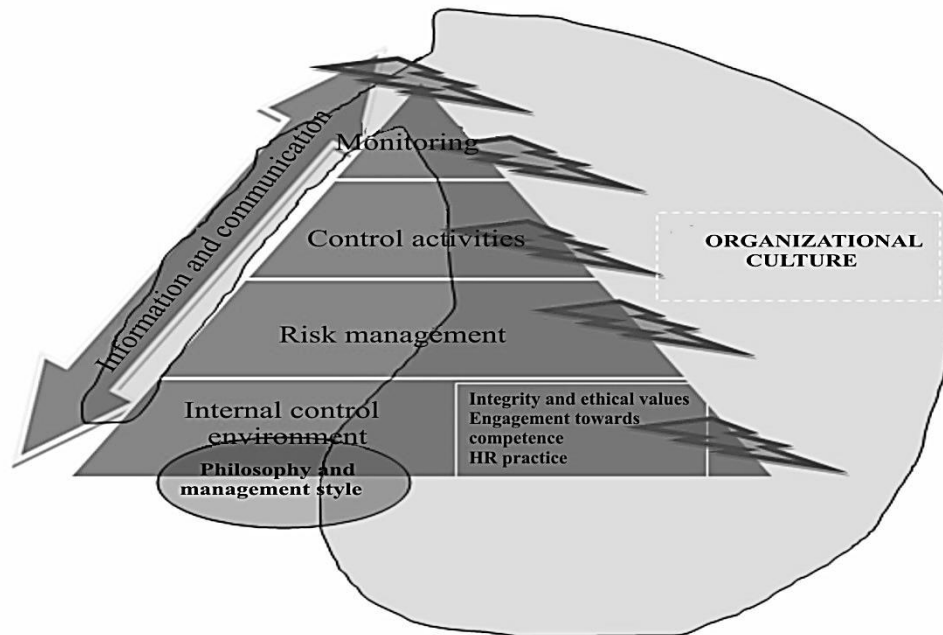


Source: Authors' design

For a more suggestive picture, in **Figure no. 7** we described the influence of the organizational culture on the internal control seen as “a state intended for communicating what happens, and especially how it happens within an entity” (Johnson, 2000), that is the

one inducing the working consciousness (better proactive) and the (clear) manner of action in order to give assurance to the entity’s leadership that it does not deviate from its objectives.

**Figure no. 7. Impact/influence of the organizational culture on the internal control**



Source: Authors’ design

If we provide further details, we can say that **Figure no. 7** depicts at least two aspects:

- The organizational culture is, according to Roth (2010), the most important source of control (and maybe even rigor) within each organization, influencing each employee’s behaviour, guiding the employee in accordance with the organizational expectations (McShane and Von Glinow, 2006). Thus, the organizations with ethical culture have less necessity for carefully supervising the employees, not to speak of manuals, organization charts and formal rules, procedures and strict controls (Nickels et al., 2011), which only stiffen, and sometimes are obsolete in comparison with the freedom of speaking. This idea could be briefly described as being the control exclusively through culture, a nice dream for the organizational practice.

- On the other hand, internal control could impact the organizational culture, meaning that its outcomes might transform certain elements of the organizational culture (organizational regulations, habits, manners of communication, etc.). In this respect, Andersen and Lueg (2016), in the wide professional literature review they make to analyse the relationship between the managerial control system and culture, quote two papers speaking about the fact that the introduction of a new book-keeping system within the organization, which is more accurate, focused on control (Dent, 1991), and, respectively, the introduction of six-sigma (Busco and Scapens, 2011) have reshaped the culture of the studied organizations.

The organizational culture is, without a doubt, “the foundation” for all the components of the internal control

system, particularly for the control environment. In this respect, we subscribe to the thesis according to which “the control environment substitutes for the organizational culture, state generated by the fact that elements like integrity, ethics, system of values, supervision, responsibility, performance assessment, interacts with the same intensity and force on both of them” (Japal, 2012). On the other hand, it is important to mention that the Institute of Internal Auditors defines the control environment, a component of internal control, as being “the attitude and actions of the management in terms of the importance of control within organization” (IIA, 2014).

At the same time, Arens et al. (2016) perceive the internal control environment as „an umbrella protecting the other components” of the internal control. In the view of the quoted authors, the personal example of managers, their attitude and behaviour with regard to the employees and third parties, the transparency they show contribute to building an honest internal control, because (as the American Institute of Certified Public Accountants states in the audit guide of “Assessing and Responding to Audit Risk In a Financial Statement Audit”) the effectiveness of internal control cannot rise above the values of integrity and ethics of the people creating, managing and monitoring it. In other words, the right tone should be given at the top (for a detailed analysis of the concept “tone at the top” see Staicu et al., 2013). We must also point out that, in accordance with the COSO report from 2004 “Enterprise Risk Management – Integrated Framework”, the tone at the top is considered a factor of influence for all eight components of risk management at organizational level, particularly for the internal environment.

We subscribe to the thesis according to which the integrity and ethical values are essential elements of the control environment, affecting the design, administration and monitoring of all internal control mechanisms and processes. At the same time, the integrity and ethical behaviour represent important determinants in the organizational culture of the entity (**Figure no. 7**).

In this context, the organizational culture does not only refer to substantiating and transmitting some values within the group but also to the manner in which people establish connections within the respective entity, to top managers descending among the common people and not isolating themselves “in the ivory tower” (paraphrasing Renard, 2016), to the art of developing a

creative internal control, to the ability of implementing proactive systems and working states because the organizations that end up to be profitable are those which grant to people importance, as well as control on their work and trust (Peters and Waterman, 1982).

We consider that entities stand to gain as the organizational culture succeeds in directing the perception, conduct and attitude of the human resource so that it could perceive internal control as a manner of connecting to the entity’s management, by supporting and rewarding the professionalism, promoting the best people on real bases known by the entire personnel of the entity, sound selection criteria, based on human quality, morality, professionalism, encouragement of creativity and granting freedom in accomplishing tasks, finding solutions instead of seeking guilty people, assessing the responsibility undertaken and increased caution to the inclination to punish a mistake made without intention as this could lead to systematic disappearance of initiative and creativity.

On this background, we appreciate that, for example, learning from mistakes might be rather seen as a source of enriching knowledge and gaining experience; in other words, a source of enriching the organizational culture. Van Dyck et al. (2005) speak about cultural practice for a management of errors at organizational level: quick communication in respect of an error; analysis of error and dissemination at organizational level of the knowledge acquired following this analysis; control of losses. The control-learning dualism should be treated very carefully by the management; the managers should be extremely careful in respect of setting up the line between the error showing the lack of performance and the error as a learning opportunity (van Dick et al., 2015).

To the extent to which the organizational culture is that of the genuine empowerment culture, the control in the sense of classical examination/inspection converges inevitably towards zero or rather low levels. In this respect, we consider more than interesting the thesis supported by the Institute of Internal Auditors, according to which the organizational culture produces an important task in the internal control portfolio, in that a positive organizational culture which is oriented towards honesty and ethics has the capacity to create behaviours opened to implementing an appropriate control system contributing to increasing the general responsibility, even the social responsibility.

Similarly, we come back to emphasise a phrase from The Business Dictionary, including in the organizational culture the “controlled freedom”. This, in our opinion, is a common challenge both for the organizational culture and the internal control and a reflection of the organizational ambidextrousness. In support of this thesis there comes the philosopher Gabriel Liiceanu, who states in his work “On boundary” that: “human freedom is interpreted as a cluster of boundaries which are the condition of its exercise”. In other words, freedom does not mean that anything could be done, or that the freedoms of others can be infringed, etc. Extrapolating, we state that ensuring the achievement of the proposed objectives cannot be done but directing human actions towards accurate goals which are good/reasonable in general and/or social views. Moreover, we can say that controlled freedom cannot be achieved without the concerted action of at least the two elements under consideration and harmonised by the internal control adapted to the organizational culture. There can be created the premises for a necessary balance at the organizational level between the autonomy and control (see also Xiao, 2017).

For a better consolidation of the stated theses, we attempt to present some eloquent aspects. Thus, if we speak about European countries and their national culture (mainly their legislative and institutional nature), we can mention that during 1991-1995, since the start of migration from Eastern Europe towards the West, it was observed that Western people did not have the necessary laws to solve some problems, which should penalize the obviously illegal actions in Eastern Europe. Due to the evolution of culture, the (organizational/national internal) control of occidental type “had wound down” in this area, other forces compensating for it. In this respect, the conclusion is that internal control, according to the level of culture, could be rather sanctioning (in the East) but mostly the promoter of the idea of correctness and, specifically, normality (in the West).

Similar, but in another field, is the situation within the business/patrimony entities. The control is developed in a certain manner in a culture where any idea is considered, without understanding that it is automatically brought in, but it is at least analysed, even tested for plausibility and performance, regardless of who it may have come from, which indicates that both organizational culture and internal control are proactive,

encourage creativity and involvement as opposed to the ritual organizational culture (very canonical...) in strict compliant relationship with internal control and nothing else. We could say that the proactive culture implying a sensitive internal control is the best form of controlled freedom.

On the other hand, an organizational culture that drifts, loses direction and allows the development of a rigid and chaotic control system, characterized, for example, by the reign of a small group’s pleasure, will only generate conflict, personal insecurity and work simulation states and attitudes, which consequently will keep the entity off its goals. In this respect, the following question arises as pertinent, “How could internal control avoid the philosophy of the organizational culture and influence it?” The answer to this question occurs as the internal control is in opposition with the culture of the entity where it was born, driving at subordinating/dominating it. This situation is possible in all the cases when the general environment inside the entity is characterized by stress and incapacity, fear and tiredness etc. It is the context when internal control is oriented towards aspects losing connection to reality and noble objectives.

Practically, such anomalies might occur when the organizational culture, for a period of time, forgets about the control call, the entity’s defence and restoration system, which does not allow it to fall into desuetude and lets dishonest, obscure people build sub-cultures within itself, trying to take over as much power possible and to annihilate the mother culture. In other words, another culture can be generated, correlated to accomplishing the personal egoist objectives, appealing for this to techniques of insidious manipulation, diabolically combined with welfare praise.

Almost on the same line, Padilla et al. (2007) speak about the so called “toxic triangle” for any of the organizations, connecting a destructive leadership, susceptible employees and a conducive environment for distortions. The destructive leader (Ken Lay from ENRON is a leader in the business world) characterized by: charisma used for personal purpose; need/desire of power; narcissism; promoting a hatred, intimidation, conflict ideology (the example here is the ex-CFO of Enron, Andrew Fastow, who had always on his desk a cube with the following inscription: “When ENRON says it’s going to ‘rip your face off’... it means it will rip your face off!”). The susceptible employees are described to have: basic unmet needs (including social needs);

negative auto-assessment: low psychic maturity; personal ambitions (exploited by the destructive leader); values and beliefs identical to those of the leader; unaccepted values at social level (greed, egoism). The conducive environment for such distorted behaviours refers to: instability; perception of imminent threats; the culture in which there is grown the avoidance of incertitude, collectivism, far distance from power; lack of a balance system (checks and balances) between the centres of power. Within such organizations, the internal control systems are used to discourage opinions and approaches opposed to those expressed by the leader, to undermine the members' trust in their abilities, to create an insecure environment.

A final aspect of the relationship between the organizational culture and internal control might be related to the following question: "What happens in this relationship when the leader changes?" Generally, the relationship between the organizational culture and internal control is a friendly one in which the organizational culture is the pacemaker and the internal control tunes up. Though, when the management changes or is essentially modified, this relationship is likely to become turbulent, in the sense that, although the organizational culture have the same almost temperate attitude, the internal control could become aggressive, it could push things and actions, systems and processes, even the organizational culture, succeeding or not, but affecting the organizational culture, sometimes even producing serious injuries, difficult or even impossible to be cured.

## Conclusions

Overall, we concluded that between the two analysed institutions there is a one-to-one relationship. Of course, culture is the basis where there are created, developed and sometimes vanish the other elements of an entity, including the internal control at a given time, but sometimes leaving "tracks". We consider desirable that in the course of its existence and functioning, the innovative internal control should create as many elements as possible which are worth being included in the ethical organizational culture.

No doubt, organizational culture produces and reshapes behaviours, generates attitudes and determines states of mind, but, at the same time, it influences the manner in which there are configured the systems and the value

attributed to them, including to the internal control. In this respect, there comes the idea according to which, by its content, the organizational culture is a source of control, a soft control – efficient and motivating (to the extent to which we discuss about a culture developing empowerment and compliance and it is not affected by certain pathologies), discrete or assertive, capable to correlate the approaches of the entity's employees with the ones desired by the organization in which the employees work.

On the other hand, it is unquestionable that internal control ends up influencing the organizational culture. This is mainly the result of the fact that internal control detects among others the prospect flaws of the organizational culture's value system. From another perspective, internal control could negatively affect the organizational culture, that is by taking advantage of some of its weaknesses and becoming possessive, for example, affecting up to annihilation any form of genuine positive leadership. It could also change the direction of the organizational culture, even by altering its substance.

Nevertheless, we consider that vigilance and balance of both institutions, transparency and attention to the feedback from the individual culture of the entity's employees and all stakeholders are elements worth being taken into consideration to prevent or correct any deviation from the constructive-positive non-connection of internal control and organizational culture.

The main limit of our research is the lack of completeness, respectively the focus on a low number of organizational cases and aspects. Nevertheless, we believe that the paper may be considered a sound basis for future research, such as emphasizing the synergies between the organizational culture and internal control or quantitative analysis of congruences and differences between the organizational culture and internal control environment.

Also, we believe that a future direction of interesting research might be the analysis of the relationships between the two elements, paying a higher attention to other factors which contribute to the configuration and changes of the organizational culture, in addition to the leadership we focused on within this article, such as: the dynamics of the business environment; pressures exercised by the business environment; the features of the local business environment; characteristics of the company's employees (Kuznetsov, 2014), national culture (Sim, 2009), etc.

## REFERENCES

1. Allaire, Y. and Firsirotu, M.E. (1984), Theories of organizational culture, *Organization studies*, vol. 5, no. 3, pp. 193-226, DOI 10.1177/017084068400500301.
2. Alvesson, M. (2012). *Understanding organizational culture*, 2nd Edition, London: Sage Publications.
3. Andersen, C.V. and Lueg, R. (2016), *Does culture matter? – A systematic literature review on how culture interacts with management control systems*, available at SSRN: <https://ssrn.com/abstract=2890880>.
4. Apostolou, N. and Crumbley, D.L. (2008), The tally stick: The first internal control?, *Forensic Examiner*, vol. 17, no. 1, pp. 60-62.
5. Arens, A.A., Hogan, C.E., Beasley, M.S. and Randal, J.E. (2016), *Auditing and Assurance Services: An integrated Approach (16th Edition)*, United States: Publisher Pearson Education.
6. Arwinge, O. (2014), *Internal control in the financial sector: A longitudinal case study of an insurance company* (Doctoral dissertation, Uppsala universitet).
7. Association of Chartered Certified Accountant (2008), *Corporate Governance and the Credit Crunch*, available at [http://www.accaglobal.com/content/dam/acca/global/PDF-technical/corporate-governance/cg\\_cc.pdf](http://www.accaglobal.com/content/dam/acca/global/PDF-technical/corporate-governance/cg_cc.pdf), accessed 20.02.2017.
8. Beckhard, R. (1969), *Organization development: Strategies and models*, Reading Mas: Addison Wesley.
9. Biegelman, M. T. and Bartow, J. T. (2012), *Executive roadmap to fraud prevention and internal control: Creating a culture of compliance*, New Jersey: John Wiley & Sons.
10. Busco, C. and Scapens, R. W. (2011), Management accounting systems and organisational culture: Interpreting their linkages and processes of change, *Qualitative Research in Accounting & Management*, vol. 8, no. 4, pp. 320-357, DOI 10.1108/11766091111189873.
11. Carataș, M.A., Spătariu, E.C. and Trandafir, R.A. (2013), Internal audit, internal control and organizational culture – active ingredients in conquering the crisis, *Ovidius University Annals, Economic Sciences Series*, vol. 13, no. 2, pp. 553-557.
12. Committee of Sponsoring Organizations of the Treadway Commission (COSO) (1992), *Internal control - Integrated Framework*, New York: AICPA.
13. Committee of Sponsoring Organizations of the Treadway Commission (COSO), (2004), *Enterprise Risk Management - Integrated Framework*, New Jersey: AICPA.
14. Deal, T.E. and Kennedy, A.A. (1982), *Corporate cultures: The rites and rituals of corporate life*, Reading, MA: Addison-Wesley.
15. Dent, J.F. (1991), Accounting and organizational cultures: a field study of the emergence of a new organizational reality, *Accounting, Organizations and Society*, vol. 16, no. 8, pp. 705-732, DOI 10.1016/0361-3682(91)90021-6.
16. Domnișoru, S. and Vinătoru, S.S. (2008), *Audit și control intern – preliminarii conceptuale și procedurale*, Craiova, Editura Sitech.
17. Gamboa Poveda, J.E., Campuzano Rodriguez, M.A. and Cabezas Cabezas, R.F. (2016), The challenge of organizational culture in internal control, *REVISTA PUBLICANDO*, vol. 3, no. 7, pp. 449-458.
18. Gafarov, T. (2009), *Financial reporting quality control for internal control implementation* (Doctoral dissertation, Brno University Of Technology).
19. Gerstner, L.V. (2004), în cadrul summit-ului de afaceri World Business Forum New York, available at <http://www.tmiworld.com/ro/blogs/world-business-forum-new-york-mai-2004>, accessed 20.02.2017.
20. Ghosal, S. (2005), Want success? Change the smell of your workplace!, *Rediff Business*, available at <http://www.rediff.com/money/2005/mar/10bspec.htm>, accessed 30.03.2017.
21. Gordon, G.G. (1991), Industry determinants of organizational culture, *Academy of Management Review*, vol. 16, no. 2, pp. 396-415, DOI 10.5465/amr.1991.4278959.

22. Hay, D. (1993), Internal control: How it evolved in four English-speaking countries, *The Accounting Historians Journal*, vol. 20, no. 1, pp. 79-102, DOI 10.2308/0148-4184.20.1.79.
23. International Federation of Accountants (2012), *Evaluating and Improving Internal Control in Organizations*, available at <http://www.ifac.org/system/files/publications/files/Evaluating%20and%20Improving%20Internal%20Control%20in%20Organizations%20-%20updated%207.23.12.pdf>, accessed 01.03.2017.
24. Jaeger, A.M. (1982), Contrasting control modes in the multinational corporation: Theory, practice, and implications, *International Studies of Management & Organization*, vol. 12, no. 1, pp. 59-82, DOI 10.1080/00208825.1982.11656333.
25. Japal, S. (2012), *Comments on COSO revised Internal Control - Integrated Framework (2010)*, available at <https://soniajaspal.wordpress.com/2012/01/05/comments-on-coso-revised-framework-internal-control-integrated-framework/>, accessed 01.02.2017.
26. Johnson, G. (1987), *Strategic change and the management process*, Blackwell.
27. Johnson, G. (2000), Strategy through a cultural lens: Learning from managers' experience. *Management Learning*, vol. 31, no. 4, pp. 403-426, DOI 10.1177/1350507600314001.
28. KPMG (2009), *Internal Control: A Practical Guide*, pp. 23, available at [http://www.ecgi.org/codes/documents/kpmg\\_internal\\_control\\_practical\\_guide.pdf](http://www.ecgi.org/codes/documents/kpmg_internal_control_practical_guide.pdf), accessed 23.03.2017.
29. Kuznetsov, A. (2014), Synergy of corporate culture and financial control in the chaotic environment, *Journal of Finance and Accounting*, vol. 2, no. 6, pp. 21-30, DOI 10.11648/j.jfa.s.2014020601.14.
30. Lakis, V. and Giriunas, L. (2012), The concept of internal control system: Theoretical aspect, *Ekonomika*, vol. 91, no. 2, pp. 142-152.
31. Liiceanu, G. (1994), *Despre limită*, București: Editura Humanitas.
32. Lu, X.U. and Wenchang, L.I. (2015), The study on relationship between internal control and enterprise culture-based on corporate governance mechanism, *International Business and Management*, vol. 10, no. 1, pp. 82-87.
33. Margulies, N. (1969), Organizational culture and psychological growth, *The Journal of Applied Behavioral Science*, vol. 5, no. 4, pp. 491-508, DOI 10.1177/002188636900500403.
34. McShane, S.L. and Von Glinow, M. (2006), *Organizational Behaviour. Emerging Realities for The Workplace Revolution*, 4th ed McGraw Hill Companies Inc.
35. Nickels, G., McHugh, J.M. and McHugh, S.M. (2011), *Understanding Business*, 9th ed. Irwin, McGraw-Hill New York.
36. Ouchi, W.G. (1980), Markets, bureaucracies, and clans, *Administrative Science Quarterly*, vol. 25, no. 1, pp. 129-141, DOI 10.2307/2392231.
37. Ouchi, W.G. (1981), *Theory Z: How American business can meet the Japanese challenge*, Reading, MA: Addison-Wesley Publishing Company.
38. Padilla, A., Hogan, R. and Kaiser, R.B. (2007), The toxic triangle: Destructive leaders, susceptible followers, and conducive environments, *The Leadership Quarterly*, vol. 18, no. 3, pp. 176-194, DOI 10.1016/j.leaqua.2007.03.001.
39. Peters, T.J. and Waterman, R.H. (1982), *In search of excellence: Lessons from America's best-run companies*, New York: Harper & Row.
40. Pfister, J. (2009), *Managing Organizational Culture for Effective Internal Control: From Practice to Theory*, Springer Physica-Verlag, Berlin Heidelberg.
41. Plakhotnik, M.S. and Rocco, T.S. (2005), *Organizational Culture: A Literature Review of the AHRD 1994-2005 Proceedings*, Florida International University, USA.
42. Ray, C.A. (1986), Corporate culture: the last frontier of control?, *Journal of management studies*, vol. 3, no. 3, pp. 287-297, DOI 10.1111/j.1467-6486.1986.tb00955.x.
43. Renard, J. (2016), *Théorie et pratique de l'audit interne*, neuvième édition, Groupe Eyrolles, Paris.
44. Roth, J. (2010). *Best Practices: Evaluating the Corporate Culture*, Published by Altamonte Springs, Fla.: Institute of Internal Auditors.

45. Schein, E.H. (1968), Organizational socialization, *Industrial Management Review*, vol. 9, no. 2, pp. 1-16.
46. Schein, E.H. (1990), Organizational culture, *American Psychologist*, vol. 45, no. 2, pp. 109-119.
47. Sim, M. (2009), National culture effects on groups evaluating internal control, *Managerial auditing journal*, vol. 25, no. 1, pp. 53-78, DOI 10.1108/02686901011007306.
48. Smircich, L. (1983), Concepts of culture and organizational analysis, *Administrative Science Quarterly*, vol. 28, no. 3, pp. 339-358, DOI 10.2307/2392246.
49. Sulkovsky, L. (2012), Elements of organizational culture – theoretical and methodological problems, *Management*, vol. 16, no. 2, pp. 63-71, DOI 10.2478/v10286-012-0056-y.
50. Staicu, A. M., Tatomir, R. and Lincă, A. C. (2013), Determinants and consequences of tone at the top, *International Journal of Advances in Management and Economics*, vol. 2, no. 2, pp. 76-88.
51. Tabuena, J. (2016), *Companies and regulators are paying more attention to getting culture right*, available at <http://misti.com/audit-news-trends/auditing-corporate-culture-a-new-imperative>, accessed 20.02.2017.
52. Teehankee, B. (1994), Organizational culture: A critical review of literature, *DLSU Dialogue: An Interdisciplinary Journal for Cultural Studies*, vol. 27, no. 1, pp. 67-92.
53. The Business Dictionary (2017), available at <http://www.businessdictionary.com/definition/organizational-culture.html>, accessed 01.02.2017.
54. The Institute of Internal Auditors (IIA) (2014), Culture and internal control, available at <https://www.iaa.org.uk/resources/ethics,-values-and-culture/organisational-culture/culture-and-internal-control/>, accessed 02.02.2017.
55. United States General Accounting Office (1999), *Standards for Internal Control in the Federal Government*, available at <http://www.gao.gov/special.pubs/ai00021p.pdf>, accessed 12.09.2016.
56. Van Dyck, C., Frese, M., Baer, M. and Sonnentag, S. (2005), Organizational error management culture and its impact on performance: a two-study replication, *Journal of Applied Psychology*, vol. 90, no. 6, pp. 1228-1240, DOI 10.1037/0021-9010.90.6.1228.
57. Vargas-Hernández, J.G., Casas Cardenaz, R. and Calderón Campos, P. (2016), Internal control and organizational culture in small businesses: A conjunction to competitiveness, *Reuna*, vol. 21, no. 2, pp. 5-22.
58. Wright, R.M. (2009), *Internal Audit, Internal Control and Organizational Culture*, available at <http://vuir.vu.edu.au/1989/1/R-M-Wright-Thesis-2009.pdf>, accessed 02.02.2017.
59. Wu, J.Y. (2008), A general behavior model and new definitions of organizational cultures, *Journal of Socio-Economics*, vol. 37, no. 6, pp. 2535-2545, DOI 10.1016/j.socec.2007.10.002.
60. Xiao, Q. (2017), Control or Autonomy? A Case Study of two Organizational Forms in the Zhangjiakou Internal Migrant Organization, *Public Organization Review*, pp. 1-15.

---

# Financial literacy training and its role in the participation ratio of the SMEs in the financial markets

---

**Seyed Mozaffar MIRBARGKAR,**  
Assistant Professor in Economy, Department of Management, Rasht Branch, Islamic Azad University, Rasht, Iran

**Pejman EBRAHIMI,**  
Department of Management, Rasht Branch, Islamic Azad University, Rasht, Iran,  
E-mail: [pejman.ebrahimi77@gmail.com](mailto:pejman.ebrahimi77@gmail.com)

## Abstract

The importance of financial literacy has increased due to factors such as the development of new financial products, the complexity of instruments and financial markets, political changes, and economic factors. For this reason, considerable measures have been performed recently by people and organizations with scientific competencies such as the World Bank, in respect of introducing, evaluating, and improving the people's financial literacy. Due to the importance of this concept, this research has been performed with the goal of evaluating the role of the financial literacy training in the participation ratio of small and medium-size enterprises in financial markets. The statistical population of this research is composed of small and medium-size companies activating in the industrial city of Rasht. For the data analysis, the Structural Equation Modelling was used, by the PLS method. The results show that the financial literacy training has a positive and significant impact on the financial literacy level, and also on the market participation.

**Keywords:** Financial Literacy, financial training, market participation

**JEL Classification:** C12, G1

### To cite this article:

Mirbargkar, S.M. and Ebrahimi, P. (2017), Financial literacy training and its role in the participation ratio of the SMEs in the financial markets, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 644-654, DOI: 10.20869/AUDITF/2017/148/644

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/644>

Received: 25.04.2017

Revised: 18.05.2017

Accepted: 19.05.2017

## Introduction

One of the important topics in Iran's economy is the investment issue, as well as the participation ratio of economic enterprises in this field, with an impact on reaching sustainable development. Investment in Iran is a major issue of the country's development plans. As an important reason therefor we can point to the unemployment issue in the country, which is considered a great crisis in the country's economy. There is hope that this issue can be dealt with by investment development as investment leads to an increase of the national production, and it ultimately causes the increase of the community's need of workforce. Another important issue which should be noted is the financial literacy ratio of the investors. Those who have a higher financial understanding manage their daily financial affairs and long-term plans better. The investment market is very complicated and it is based on important and difficult decision makings. Naturally, decision makers should have proper information. The investors, who are decision makers in the economic field, should have financial information and the ability to analyze the financial market at a reasonable level, whereas this shows the importance of financial literacy. .

Financial literacy means the ability to manage money effectively and efficiently in the processes related to financial decision makings (Bayrakdaroglu and San, 2014). Accurate and coherent financial training can help creating saving plans, debt management and making strategic investment decisions for training retired people or their children. Contrary to this point, some researchers say that the measures performed in respect of financial literacy improvement can only justify a small part of the financial behavior and, like other trainings, it will be eliminated with the passage of time (Hendriks, 2010). Financial literacy impacts on the decision-making process, and it is less likely that people with low financial literacy participate and invest in stock markets. Investors' access to the information related to financial assets during a short time and usually without cost is important for the analytical thinking of the managers. By having knowledge and information concerning items transacted in financial markets and by the exact evaluation of these items and instruments, managers can respond better to the company's requirements. The process of changing and processing raw financial data to eligible items like responsiveness and meeting company's requirements is also made possible by the

ability of managers in the field of financial literacy (Rojj *et al.*, 2011)

The development of small and medium enterprises that actually makes possible the general public participation in the country's economic development is the most basic and perhaps the most essential foundation of the economic development. In Iran, the definition of various organizations about small and medium enterprises is not the same either. Various organizations, like The Iran Small Industrial Parks Organization (ISIPO, 2014), according to their business requirements, have considered different classifications for the enterprises in terms of large, small and medium-sized. Despite the effect of SMEs on the global economy, this is not well recognized in Iran. The Ministry of Industry, Mining and Trade showed in 2014 that the number of firms with less than 50 employees and an industrial operating license, is of 82.8 thousand, i.e. 91.5% of all units. Their share in the capital and full-time employment of industrial units was of 24.4% and 41.2%, respectively. By contrast, firms with 50 or more employees, despite their relatively low share of operating licenses, comprise 75.6% of the capital and 58.8% of the full-time employment of industrial units. This is greater than for firms with less than 50 employees (Ebrahimi and Mirbargkar 2017).

Ebrahimi and Mirbargkar (2017) introduces small and medium enterprises as having 5 to 50 employees. Growth and development among Small and Medium Enterprises (SME) will result both in the development of financial markets and SMEs. Better financial literacy can have advantages such as an increased demand for financial services, higher savings, a better risk management, the reduction of economic volatility, the improvement of financial intermediation and the financial development progress for these small and medium enterprises. This condition will cause the increase of competition in financial markets and the investment distribution will reach more balance among the community (Nunoo and Andoh, 2012). Creating an optimum investment structure and performing an accurate and successful financial strategy require a certain degree of literacy.

Previous researches have shown that instead of using standards and principles based on financial training, using empirical and simpler training can cause the economic development of small and medium companies to a greater extent. In other words, using a training course in small and medium companies that

corresponds with their basic requirements is considered as the most efficient and appropriate method for the economic development and growth of these enterprises (Drexler *et al.*, 2014). Researches have also shown that financial literacy in connection with analyzing and understanding hazard has a direct relationship with the investment decision making (Sachse *et al.*, 2012).

Currently, it seems that the financial literacy level as an information limitation has prevented the participation and use of all the capacities of small and medium enterprises on the financial markets. Hence, in this research we intend to determine the Financial Literacy level (FL) and its relationship with Financial Training (FT) and Market Participation (MP) among small and medium business enterprises in the industrial city of Rasht. With regard to the mentioned points, the question occupying the researcher's mind regards the relationship between the financial literacy education and the participation ratio of small and medium enterprises from the industrial city of Rasht in the financial markets.

## 1. Literature review

Financial literacy was defined for the first time in 1997 in America as "the ability of a person to use the knowledge and skills for effectively management of financial resources for lifetime financial security." After this definition, several definitions were provided for financial literacy ranging from having knowledge of financial concepts to the ability to perform financial planning for the future needs. The Organization for Economic Cooperation and Development (OECD) defined financial literacy for people under 15 years as it follows: "financial literacy refers to the knowledge and understanding the concepts and financial risks, skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions in range of financial areas for improving financial welfare of people and community as well as empowerment to participate in economic life". In addition, this organization defined financial literacy for adults as a combination of awareness, knowledge, skills, attitude, and behaviour necessary for adopting proper financial decisions and ultimately to achieve personal financial welfare. Financial literacy includes a set of skills and perceptions necessary to deal with everyday financial issues and issues available in public economy; the proper use of these skills makes people achieve a long term financial

welfare. Nowadays, considering the complexity of financial markets, the development and expansion in scope of the financial institutions' activity and the ongoing effort to increase the market share, the need for having financial literacy increased. Financial literacy is the ability of people to obtain information, analyse and manage their financial status so that it affects their financial and mental welfare (life satisfaction). The financial market provides the necessary facilities for the transfer of savings from natural and legal people to other people, who have productive investment opportunities and require financial resources. The transfer of funds in almost all cases leads to the creation of financial assets. In fact, it is a claim to future incomes of personal (legal) assets, that have issued securities. In terms of the importance of small and medium-sized enterprises for the economic development, it can be said that today, in many newly-developed countries such as India, South Korea and Malaysia, what has accelerated their development is the growth of their small and medium-sized businesses. The development of these enterprises, which in fact provide the conditions for public participation in the country's economic development, is one of the most basic and perhaps essential economic infrastructures of development in economic sectors (Loader, 2015). Accordingly, the small, quick impact of entrepreneur industries has always been considered by developed or developing countries as one of the ways for economic development during the last three decades. The economic justification of small industries is the need for low investment, high efficiency, and flexibility. Tennyson and Nguyen (2001) investigated in their study the effect of the financial literacy education programs provided in different states of USA, on the financial literacy score of high school students. The selected sample consisted of 1997 high school students from 20 states with comprehensive financial literacy topics and 11 states without financial literacy topics. In the studies conducted, a considerable difference was observed between the financial literacy score of the two groups. According to them, this result might be attributed to the employment and effectiveness of the educational programs in the different states. Additionally, Peng (2010) examined in his study the effect of a theory-based educational method based on the change theory in promoting financial literacy among high school students in Hong Kong

Accordingly, 193 students were divided into two experimental and control groups. Twelve teachers (n=6 in each group) provided financial literacy to students using two methods (the conventional method and the method based on change theory). They took a financial literacy test in four stages (one pre-test and three post-tests: immediately after completing the class, six weeks after completing the class, and 6 months after completing the class). The results of the tests showed that in all stages the experimental group surpassed the control group and kept their distance in all the tests. The author suggests that the method based on the change theory should be used for educating financial literacy and support its durability over time.

## 2. METHODOLOGY

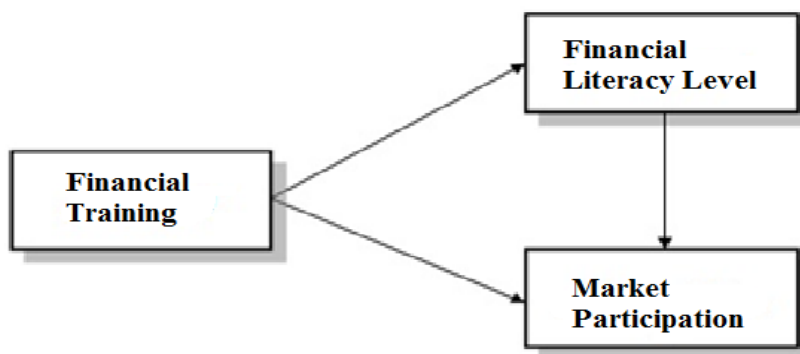
### 2.1. Research goal

The major goal of performing this research is to investigate the impact of the financial training and the financial literacy level on the participation of small and medium enterprises in the financial markets.

### 2.2. Research model and hypotheses

The researcher-made conceptual model of research and the relationships between variables have been shown in Figure no. 1.

**Figure no. 1. Research Conceptual Model**



Source: Author's compilation, 2016

Considering research model, the following hypotheses are suggested:

- Hypothesis 1.** The financial training impacts on the financial literacy level of SMEs.
- Hypothesis 2.** The financial training impacts on the participation of SMEs in financial markets.
- Hypothesis 3.** The financial literacy level impacts on the participation of SMEs in financial markets.

### 2.3. Sample and data collection

The statistical population of this research is composed of small and medium enterprises activating in the industrial city of Rasht. The basis of this research is

the definition of the Industries and Mines Organization and Industrial Towns about small and medium enterprises. Based on the information obtained from the Industries and Mines Organization and Industrial Towns Company of Guilan province, the number of SMEs activating in the industrial city of Rasht is of 150 companies. In order to sample the research statistical population, having the list of small and medium companies activating in the industrial city of Rasht, the simple random sampling method has been used. According to Morgan's table, the sample size with regard to the statistical population size was estimated to 108 people. For this purpose, 130 questionnaires were distributed among the members of the research statistical population (senior managers of mentioned companies), and ultimately the data analysis was performed on 109 analysable questionnaires.

## 2.4. Variables measurement

In the present research, the researcher-made questionnaire was used in order to investigate the investors' viewpoint in the stock exchange, (see, Appendix 1). The scale used in the questionnaire is Likert's 5 options scale. We used 10 items to measure the variables of financial training, 10 items to measure the financial literacy level, and 4 items to measure the participation in financial markets.

## 3. RESULT

### 3.1. Respondents' Features

From 109 respondents of the questionnaire of this study, 85 percent are male, 15 percent are female, 26 percent are single, and 74 percent are married, 26 percent have

less than 5 years, 22 percent have between 5 to 10 years, 15 percent have between 15 to 20 years, and 8 percent have more than 20 years work experience.

### 3.2. Test of Data Normality

In order to assess the normality or non-normality status of the distribution of the research variables, the K-S test has been used (See, Table no. 1).

Regarding the K-S test results inserted in Table no. 1, the Sig value for all variables was less than 0.05, hence the hypothesis of the normality of variables is rejected and the hypothesis of non-normality of the distribution of research variables is confirmed.

Regarding that the research variables do not have a normal distribution, the structural equation modelling, by the PLS method, is used for analysing the data.

**Table no. 1. Assessment Test of the Distribution Status of the Research Variables**

Variables	Number	K-S statistics	Sig
Financial Literacy Training	109	1.531	0.018
Financial Literacy Level	109	1.802	0.003
Market Participation	109	1.631	0.010

Source: Author's calculations, 2016

### 3.3. Data Analysis

The structural equation modelling by the PLS method includes two stages: the measurement model test, and the structural model test. The measurement model test includes the investigation of reliability (internal

consistency) and discriminant validity. To assess the reliability criterion, we investigate each one of the items. If the factor loads of each item on the structure related to itself is significant, it can be argued that the items have an adequate reliability.

**Table 2. Factor Load of Financial Literacy Training**

Items	Financial Literacy Training	
	Factor Load	Significance
Q1	0.67	Confirmed
Q2	0.79	Confirmed
Q3	0.70	Confirmed
Q4	0.78	Confirmed
Q5	0.79	Confirmed
Q6	0.80	Confirmed
Q7	0.64	Confirmed
Q8	0.28	Rejected
Q9	0.59	Confirmed
Q10	0.73	Confirmed

Source: Author's calculations, 2016

As it is observed in **Table no. 2**, the factor load of item 8 is less than 0.5; hence this question was excluded from

the next analyses. Other items were higher than 0.5, at 0.01 significance level.

Table no. 3. Factor Load of Financial Literacy Level Variable					
Financial Literacy Level					
Items	Factor Load	Significance	Items	Factor Load	Significance
Q11	0.70	Confirmed	Q16	0.78	Confirmed
Q12	0.61	Confirmed	Q17	0.69	Confirmed
Q13	0.74	Confirmed	Q18	0.68	Confirmed
Q14	0.72	Confirmed	Q19	0.76	Confirmed
Q15	0.76	Confirmed	Q20	0.61	Confirmed

Source: Author's calculations, 2016

As it is observed in **Table no. 3**, the factor loads of all items were higher than 0.5, at 0.01 significance level.

Table no. 4. Factor Load of Market Participation Variable		
Items	Market Participation	
	Factor Load	Significance
Q21	0.83	Confirmed
Q22	0.86	Confirmed
Q23	0.79	Confirmed
Q24	0.67	Confirmed

Source: Author's calculations, 2016

As it is observed in **Table no. 4**, the factor loads of all items were higher than 0.5, at 0.01 significance level.

The second reliability criterion is the investigation of the compound reliability of each one of the structures. Compound reliability, which is known as Composite Reliability as well, is considered a more modern criterion for determining reliability, compared with Cronbach's alpha. This reliability is obtained through the Dillon - Goldstein coefficient, and values that are higher than 0.7 for this criterion are acceptable. The third reliability criterion is the Average Variance Extracted (AVE). The AVE criterion indicates the average variance shared between each structure with its indicators. Actually, this criterion shows the correlation ratio of one structure with its indicators; a higher value of this correlation stands for a better model fitness. The values higher than 0.5 for this criterion indicate an appropriate reliability of the structure. In **Table no. 5**, the two criteria of CR and AVE for the research structures have been presented.

Table no. 5. Reliability Values of the Research Structures		
Variable	CR	AVE
Financial literacy Training	0.91	0.53
Market Participation	0.87	0.63
Financial Literacy level	0.90	0.50

Source: Author's calculations, 2016

In order to investigate the validity of the research model, the criterion introduced by *Fornell and Larcker (1981)* is used. This criterion shows the relationship ratio of one structure with its indicators in comparing the relationship of that structure with other structures of research, in a way that the divergent validity of a model indicates that

one structure in the model has more interaction with its indicators than other structures. The *Fornell and Larcker criterion* is obtained in this way that the AVE Square root of one structure should be more than the correlation of that structure with other structures. This criterion has been presented in **Table no. 6**.

**Table no. 6. Investigation of Research Variables Validity**

Variable	Financial Literacy Training	Market Participation	Financial Literacy Level
Financial literacy Training	0.72		
Market Participation	0.71	0.79	
Financial Literacy level	0.57	0.68	0.70

Source: Author's calculations, 2016

In this matrix, the correlation of latent variables has been reported. The scores on the main diagonal of matrix are AVE Square root. Based on this criterion, provided that these scores are higher than their lower scores, the structure has an appropriate validity. In **Table no. 6**, all

variables have appropriate validity. As it is observed in **Table no. 7**, regarding the results of the t-statistics, it can be said that all research hypotheses were significant at 0.01 error level, and they are confirmed.

**Table no. 7. Investigation of the Research Hypotheses**

Research Hypotheses	$\beta$	t-Value	Test Result
H1: Financial Literacy Training Financial Literacy Level	0.57	7.98	Confirmed
H2: Financial Literacy Level Market Participation	0.35	3.82	Confirmed
H3: Financial Literacy Training Market Participation	0.58	7.55	Confirmed

Source: Author's calculations, 2016

The GOF criterion is also related to the general part of the structural equations modelling. It means that the researcher, having investigated the fitness of the measurement section and structural section of his/her research general model, can also test the fitness of the general section by this criterion. In the PLS method,

three values of 0.01, 0.25, and 0.36 have been introduced as weak, medium, and strong values for GOF (Wetzels, Odekerken-Schröder and Oppen, 2009). In table 8, the GOF value related to the research structural model has been calculated.

**Table no. 8. Investigation of GOF Criterion**

Variable	R <sup>2</sup>	Shared values	GOF
Financial Literacy Training	-	0.53	0.52
Market Participation	0.69	0.63	
Financial Literacy Level	0.32	0.50	

The GOF criterion has been calculated 0.52 for fitness of general model, indicating a very strong fitness of model.

## Conclusion

Nowadays, what has accelerated the progress in many new developed countries is the development of their small and medium businesses. The development of

these enterprises that actually permits the background of general public participation in the country's economic development, is among the most basic and perhaps the most essential infrastructures of development in economic sections. On this basis, small quick yielding and entrepreneur industries have continuously been considered by developed or developing countries as one of the ways of reaching economic development during

three recent decades. The low investment requirement, the high return, and the flexibility of small industries reveal further the economic justification of small industries. Small and medium industries also have a very important role in creating employment, particularly for workers with limited skills and low income women. The ability to use financial market instruments and having adequate financial literacy in small and medium trade companies considerably help their progress and success in financial and competitive markets. The financial literacy level of managers, and even employees having financial training, impact on making strategic management decisions and getting desirable result.

Due to a set of distinctive characteristics separating the small and medium enterprises from large enterprises, we see different economic effects of activities of these enterprises on the economy compared to large enterprises; these effects determine the need to investigate the situation of small and medium enterprises in general, and especially solving their financing problems. Some of the most important effects of small and medium enterprises in all countries are their contribution to the job growth and the decrease of the unemployment rate, especially in less developed or developing countries, where the uncontrolled growth of the population, the deficiency in creating human capital and the inefficiency of market mechanisms in creating a balance between the supply and demand of work are some of the economic structure characteristics. It caused that, despite abundant potential economic facilities, employment became an unsolved problem and crisis. Since 1970 onwards, most development economists continuously emphasize the orientation to small industries for solving the problem of the unemployment crisis in the third world. In its annual report from 1997, UNIDO declared the failed experience of large industries to create employment and stated that, in order to solve the problem of unemployment in the developing countries, small and medium enterprises should be supported financially. As small and medium industries have a high share of employment, they were more directed to use a special type of technology, implemented with by more workers and

less capital. In other words, since the small and medium enterprises apply more user-based technology compared with large enterprises, and can create employment with less capital, the number of jobs created by these companies is more than the one created by large companies. The second effect of small and medium industries is the positive effect of these industries on the distribution of income.

### **Suggestions for Future Researches**

It is suggested to assess the financial literacy level variable by designing questions, issues, and practices about financial topics in future researches and compare their results with the findings of this research. It is also suggested that the future researchers investigate the relationship between the independent and dependent variables of this research in various industries separately, as well as their attractiveness ratio and the level of knowledge workers required for various industries separately, and compare the results with the findings of this study.

### **Research Limitations**

In this research, in order to assess the financial literacy level, the components and topics were extracted from the theoretical bases and according to them, the respondents' viewpoints concerning their information ratio about these components were asked. This issue is one of the limitations of this research. In the absence of this limitation, researcher could evaluate the respondents' financial literacy level by technical questions related to financial topics. The market participation variable was also assessed as a distance variable, while this variable can be assessed relatively too. In this study, all small and medium companies activating in the industrial city of Rasht were also investigated as a statistical population, and factors such as the industry type and its attractiveness, the ratio of the industry's reliance on financial literacy, and the knowledge level of employees working in the industry were not considered in the statistical analysis.

## REFERENCES

1. Bayrakdaroglu, A. and San, F.B. (2014), Financial Literacy Training as a Strategic Management Tool among Small – Medium Sized Businesses Operating in Turkey, *Procedia- Social and Behavioral Sciences*, vol. 150, pp. 148-155, DOI: 10.1016/j.sbspro.2014.09.019.
2. Drexler, A., Fischer, G. and Schoar, A. (2014), Keeping It Simple: Financial Literacy and Rules of Thumb, *American Economic Journal: Applied Economics*, vol. 6, no. 2, pp. 1-31, DOI: 10.1257/app.6.2.1.
3. Ebrahimi, P. and Mirbargkar, S.M. (2017), Green entrepreneurship and green innovation for SME development in market turbulence, *Eurasian Business Review*, vol. 7, no. 2, pp. 203-228, DOI: 10.1007/s40821-017-0073-9.
4. Fornell, C. and Larcker, D.F. (1981), Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research*, vol. 18, no. 1, pp. 39-50, DOI: 10.2307/3151312.
5. Hendriks, T.P. (2010), *National financial strategy, Education in a competitive and globalizing world series*, Nova Science Publication, New York.
6. ISIPO (2014), *Iran small industrial parks organization*, available at <http://en.isipo.ir/>.
7. Loader, K. (2015), SME suppliers and the challenge of public procurement: Evidence revealed by a UK government online feedback facility, *Journal of Purchasing and Supply Management*, vol. 21, no. 2, pp. 103-112, DOI 10.1016/j.pursup.2014.12.003.
8. Nunoo, J. and Andoh, F.K. (2012), Sustaining small and medium enterprises through financial service utilization: Does financial literacy matter?, *Agricultural & Applied Economics Association's 2012 Annual Meeting*, Washington.
9. Pang, M.F. (2010), Boosting financial literacy: Benefits from learning study, *Instructional Science*, vol. 38, no. 6, pp. 659-677, DOI 10.1007/s11251-009-9094-9.
10. Roij, M., Alessie, R. and Lusardi, A. (2011), Financial literacy, retirement preparation and pension expectations in the Netherlands, *CeRP Working Papers 110*, Center for Research on Pensions and Welfare Policies, Turin (Italy).
11. Sachse, K., Jungermann, H. and Belting, J.M. (2012), Investment risk – The perspective of individual investors, *Journal of Economic Psychology*, vol. 33, no. 3, pp. 437-447, Doi:10.1016/j.joep.2011.12.006.
12. Tennyson, S. and Nguyen, C. (2001), State curriculum mandates and student knowledge of personal financial, *The Journal of Consumer Affairs*, vol. 35, no. 2, pp. 241 – 262, DOI 10.1111/j.1745-6606.2001.tb00112.x.
13. Wetzels, M., Odekerken-Schröder, G. and Oppen, C.V. (2009), Using PLS path modeling for assessing hierarchical models: Guidelines and empirical illustration, *MIS Quarterly*, vol. 33, no. 1, pp. 177-195.

## Appendix no. 1: Questionnaire of the research

### *Financial Training*

- Topics related to tax, salary and wages
- Topics related to the impact of inflation on purchase power
- Topics related to added value tax
- Topics related to the safe investment of the surplus funds in short-term
- Topics related to the long-term deposit of surplus funds
- Topics related to the preservation of the purchasing power in inflation conditions
- Topics related to wage deductions and the net amount received
- Topics related to understanding the wage tax base exemption
- Topics related to the impact of investments in stock exchange
- Topics related to the investment risk reduction strategy in the stock

### *Financial Literacy Level*

- Topics related to life-long financial planning
- Topics related to the difference between the bank interest rate belonging to different activities
- Topics related to understanding the appropriate success of borrowing money
- Topics related to people's responsibility limits in loan guarantee of others
- Topics related to the items that are expendable without restriction
- Topics related to the cheque from the perspective of the trade rule
- Topics related to the recognition of credit cards
- Topics related to the recognition of new e-banking services
- Topics related to the recognition of insurance coverage appropriate for different jobs
- Topics related to the rights of retirement period

### *Financial Markets Participation*

- On investment in the stock
- Taking the necessary measures about reducing investment risk in the stock
- On short-term investment without risk
- On the measures needed to acquire the maximum ensured profit from the savings.

Appendix no. 2

Figure no. 2. Route Coefficients and Factor Loads of Research Variables

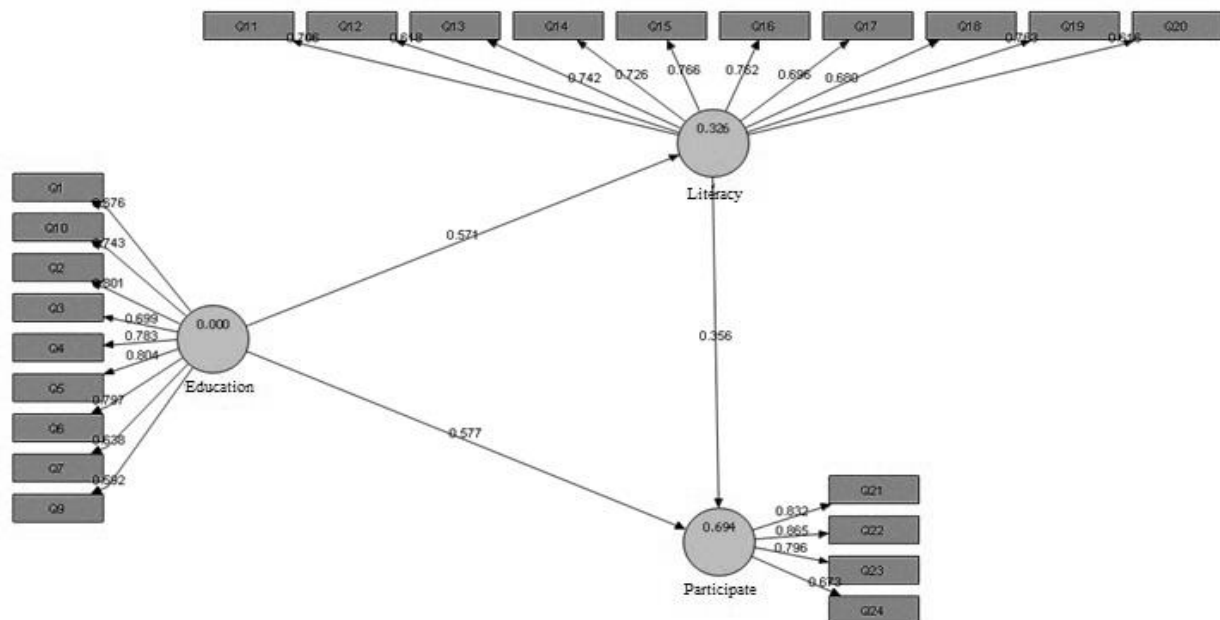
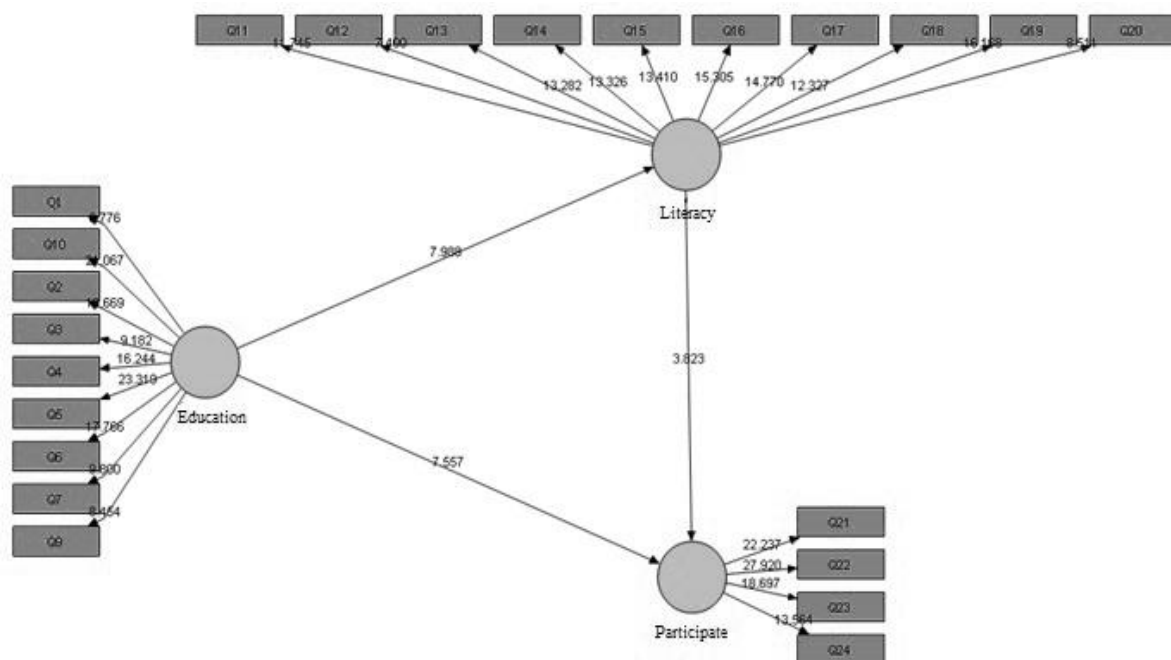


Figure no. 3. Significance of Routes



---

# The digital economic chain – ICT in the loop of the OECD regulations

---

Ramona LUPOI JURUBIȚĂ,  
Bucharest University of Economic Studies,  
E-mail: rjurubita@kpmg.com

## Abstract

*Taxation is today at the top of the agenda of international organizations, a reflection of governments' intent to gather as many taxes as possible into their jurisdictions. There is an assumption that base erosion and profit shifting exists, carried out in some cases as a result of aggressive tax planning or, in other cases, as a result of the lack of coherence of the tax systems of various jurisdictions. There is an estimation that countries worldwide lose taxable income equivalent to between 4% and 10% of global revenues from corporate income tax. The Romanian ICT business is generating significant profits.*

*This paper intends to analyze the information technology sector, in which businesses are rapidly growing, in line with technology for all sectors of activity and in line with the EU's strategy for promoting and supporting innovation.*

*The objective of this paper is to analyze how the ICT sector may be affected by the new approach of allocating profits to various jurisdictions and how R&D activities may also need to be reanalyzed, in terms of fees charged between multinationals.*

*Romania can be proud of its ICT professionals and the business generating profits in the sector. The author has also analyzed how other countries may benefit from profits from international transactions carried out in the sector and how Romania can continue to support it.*

**Keywords:** OECD, BEPS, ICT, R&D, transfer pricing, substance, value added, know-how, innovation, taxable profits

### To cite this article:

Lupoi Jurubiță, R. (2017), The digital economy chain – ICT in the loop of the OECD regulations, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 655-666, DOI: 10.20869/AUDITF/2017/148/655

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/655>

Received: 15.04.2017

Revised: 15.06.2017

Accepted: 16.06.2017

## Introduction

Today's economic reality shows an increased number of complex products, on the borderline between products and services, an important component consisting of knowledge, experience and know-how. More and more products and services involve digital content, or are subject to digital transmission.

From a commercial point of view, globalization presents an opportunity for multinationals, as more and more emerging markets are penetrated, and thus, technology and innovation spread worldwide. From a taxation point of view, the multitude of international transactions give rise to the question as to whether each state receives the correct level of taxable profits as a result of commerce carried out worldwide (Corlaci and Tiron Tudor, 2013; Feleagă and Neacșu, 2016).

After two years of work, 15 papers have been issued by the OECD and G20 countries addressing Base Erosion and Profit Shifting (BEPS). The underlying driver is each state's desire to ensure that a fair amount of corporate tax is paid in that country as a result of various international transactions.

The purpose of this paper is to analyze how the ICT sector may be impacted by the new approach of allocating profits to various jurisdictions and how the R&D activities may also need to be reanalyzed when it comes to fees charged between multinational companies.

The method upon which the global analysis will be based is, in fact, the splitting of profits among companies, based on the economic value they are deemed to create across the economic chain. The previously used methodology for assessing services is cost plus mark-up, according to which a mark-up is added to all the direct and indirect costs which are attributable to a certain activity, for a certain profit center.

On a greater level of detail, the objective of this paper is to analyze and assess the magnitude of the taxable profits registered in the ICT sector of Romania, and the impact which the new regulations launched by OECD through the issuing of the BEPS Actions may have upon the level of profits in this sector. Specifically, the importance of the Romanian ICT sector is determined via the taxable profits the industry gets, as a contributor to the state budget. The analysis focuses on Romania

and on several European countries. As ICT is essentially an innovative sector, the author extended the analysis of the Romanian ICT sector to include R&D activities. The interferences of the new OECD regulations regarding the transfer pricing approach with the ICT and R&D sectors are analyzed by performing two case studies. The results of the research made via the two case studies reveals how the European countries will seek to increase the level of the taxable corporate income declared by the ICT and R&D companies registered in that specific tax jurisdiction.

The research methodology used in this paper includes two steps:

- 1) The first step consists of a literature review of international and Romanian publications on transfer pricing. The author analyzed how the attributable profits in a certain jurisdiction, for taxation purposes, are going to be realized, based on the key concept of transfer pricing encountered in the relevant publications. The new allocation of profits between companies is most likely to follow a rationale similar to the profit split method as it is defined in the Romanian Fiscal Code.
- 2) The second step consists of a case study analysis performed in the ICT and R&D sectors, in order to anticipate the changes which may be seen in the future with respect to the allocation of profits from the sectors, between various countries. The author presented two case studies from the digital sector: one referring to complex advertising services with digital delivery, and the second referring to the research and development of new products which are to be commercialized. The author subsequently analyzed the development of the ICT sector in Romania via the net margin indicator obtained by the providers. The comparison is made with a number of EU countries, thus revealing that the ICT sector is indeed a big contributor to the Romanian economy and to the taxes raised by the state. The purpose is to see how the new trends in international transfer pricing policies would affect the level of taxable profits in Romania, in the specific sector of ICT and R&D.

The literature review starts from the key transfer pricing concepts presented in the IBFD book named *Transfer Pricing and Business Restructurings*. The book also presents trends relating to business restructurings. In recent years,

reorganizations of international operations were based not only on commercial factors, but also on the constraints imposed by the local transfer pricing regulations, in the country where the commercial activity is carried out. Business restructurings are a reaction to global competitive pressures and changing market demand. In response to market forces, multinational enterprises (MNE's) may be able to retain their profit margins only by restructuring.

The review of the book *Transfer Pricing - Between Tax Optimization and International Fiscal Evasion* addresses the extreme approach that the tax authorities in any country may take, in order to increase the profits considered as taxable in their jurisdiction, by considering that aggressive tax planning was made. The case study was conceived based on this approach, aligning the practical implications which may arise, with the provisions of the OECD BEPS Actions.

While the wish of the OECD and G8 states is to avoid double non-taxation, as a result of transfer pricing adjustments made by the tax authorities in one jurisdiction, it is likely that an increased number of cases of double taxation will arise. The book issued by IBFD, named *Transfer Pricing and Dispute Resolution* addresses the complexity of the administrative procedures which are in place, in order to allow multinationals not to face cases of double non-taxation. The issue of dispute resolution remains on the list of matters to be better addressed by the OECD.

This study is divided into 5 parts. The first title presents general aspects, including the necessity of BEPS actions due to the globalization process. The second title contains the 3 pillars proposed by the OECD to be used in order to assess the right amount of corporate income tax to be paid, and also the most important concern of the OECD: double taxation or double non-taxation.

The third title contains an overview of Action 1 of BEPS, and also how the analysis approach of profits generated by advertising services, research and development and derived profits will change. The fourth title is a presentation of the profit generated by ICT in Romanian and other European countries. The final title contains the author's conclusions regarding the new guiding approach introduced by OECD.

## 1. Substance, transparency, and coherence under the OECD's BEPS actions

The pillars of the new approach introduced by the OECD and the G8 (the most powerful 8 countries) of assessing the right level of corporate tax to be paid in a specific country are: substance, transparency and coherence.

### 1.1. Substance

Several years ago, Romania introduced a set of rules allowing tax authorities to analyze the substance of a transaction, and potentially reclassify it, hence leading to the application of a different type of tax treatment.

Romania's legal system is quite straightforward with respect to the creation of companies, branches and partnerships. Each economic presence of an entity carrying out economic activity in Romania involves fiscal registration.

Classic transactions include financing operations, which may more reasonably be seen as capital infusion, and consequently financial expenses are often neglected by the tax authorities.

### 1.2. Transparency

Transparency involves access by the tax authorities to the financial data of the companies in a specific group, although they do not operate in that specific jurisdiction. Action 13 of BEPS introduced the Country-by-Country report, which makes private data transparent to the tax authorities of other jurisdictions. This data may then be used to carry out a deep analysis of the group's activity and of the profits taxable in each jurisdiction.

Certainty remains a goal, but has been rather reduced in practice, as a result of the BEPS Actions. The whole approach of the transactions analysis has changed, and the analysis has become increasingly extensive. The Actions do not provide solutions, but instead highlight points for attention and possible questions to be asked, based on specific scenarios.

### 1.3. Coherence

In the context of the magnitude of the ICT sector worldwide, OECD intends to intensify the coherence between the various taxation systems. The amounts involved in transactions between companies in the ICT

sector, either independent or related parties, are significant and thus, the new guiding approach introduced by the OECD BEPS Actions have, as a declared objective, to ensure that the profits should be taxed in the countries where the value added is created. This means that Romania has a real opportunity in supporting the expansion of the ICT sector.

#### 1.4. Double taxation versus double non-taxation

The OECD and G8 countries aim to avoid cases of double non-taxation, meaning that the recipient of profits does not pay tax under its domestic tax legislation in the country where it operates, while at the same time deducting related expenses for corporate tax purposes, based on the tax legislation applicable in the country where it has its headquarters.

Where payments are made, e.g. royalty payments (for transfer of know-how), the OECD and G8 aim to prevent companies choosing to locate intellectual property rights in specific countries which grant more favorable tax treatment, based on so-called “treaty-shopping”. Some Double Tax Treaties provide for favorable tax regimes for royalties and other types of payments. This is in addition to the corporate tax regime, where various rates and regimes (for taxable or non-taxable revenues) may apply.

However, when the BEPS Actions are implemented, it will also be important to prevent double taxation. Each state will try to increase its taxable profits and the mechanism currently in place does not easily allow for an increase of taxable profits in one state to be recognized as an equivalent reduction of profits in another (Neacșu and Feleagă, 2017).

## 2. BEPS Action 1 – Addressing the Tax Challenges of the Digital Economy

### 2.1. Digitalization and BEPS Action 1

Business models have evolved rapidly in recent years. Companies nowadays rely more on digitalization in order to enhance their activity, to be more visible on the market, to protect their data, etc. This has been possible because of development of the technology used and of

the ICT (information and communication technology) sector. Some other important element has been the fact that more and more people have access to information and that it is affordable (e.g. the Internet). Consequently, the development of the ICT sector has made technologies cheaper and more standardized, with innovation playing an important role for companies across all industries.

The main characteristics of the digital economy are: mobility (of intangible assets, users, and business functions), a strong emphasis on data (“data is king”), networking, multi-sided businesses and volatility (the increasing speed of technological development).

The development of companies’ business models has an impact on the economy in general, and thus on local and international taxation.

Action 1 of the Base Erosion and Profit Shifting (BEPS) Action Plan focuses on the digital economy and its impact on corporate income tax and transfer pricing. It also mentions some VAT influences.

With respect to transfer pricing, Action 1 noted that the digital economy has also accelerated the spread of global value chains of multinational companies. The development of the ICT sector led to integration, making things like communication, transportation, and currency exchange rules easier and faster, allowing multinational companies to operate to a greater extent at a global level. The development of the ICT sector has even allowed small companies to operate and employ personnel in different countries, the result being the so called “micro-multinationals”.

### 2.2. Digitalized client contacts and delivery – advertising services

One important aspect of today’s businesses is the mixing of almost any other activity with digital solutions, digital communication and digitally delivered products or services. For example, a big advertising group of companies sets up a subsidiary B Co. (a company) in country B. The business is conducted via A Co., a group company registered in country A, which enters the market of country B in the advertising sector. The aim of A Co. is to attract clients in country B and subsequently provide them with complex advertising solutions, including advertising spots and TV related advertising. A Co. has a wide range of resources: experienced

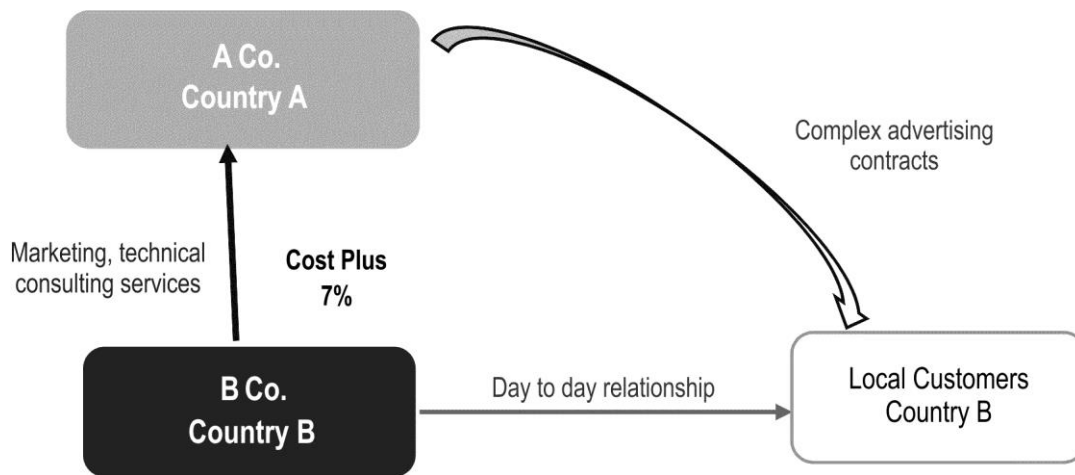
professionals, equipment, and financing, as well as a reputable brand.

B Co., the company set up by the group in country B, has employees who deal with the local customers of the group, on the one hand by promoting the complex advertising services which may be rendered by A Co., and on the other hand by having one-on-one interaction with local customers, providing education and technical consulting to customers, when needed.

The commercial contracts are concluded between A Co. and the local customers directly. The revenues from the complex advertising services in country B are registered by A Co. and subject to corporate tax in Country A.

In country B, B Co. registers revenues charged to A Co. under a “cost plus” mechanism, i.e. cost plus a mark-up of 7%, where all its costs for employees, office related costs and other operating costs are included in the cost base. The profit margin results in taxable profits in country B.

**Figure 1: Example no. 1**



The standard approach followed by the tax authorities and taxpayers so far, has been as described above. The central idea of the new approach would be that the tax authorities of country B may consider that B Co. is involved in creating the demand for services to be rendered by A Co. and thus in contributing to the creation of new business for A Co. This would mean that the tax authorities of country B may consider that B Co. creates value in the supply chain and is therefore entitled to receive a part of the profits earned by A Co. from the business carried out in country B. The standard approach in the past would have categorized the profits earned by A Co as so-called “business profits” which consequently should be taxed in Country A.

The OECD has aimed to reduce the burden of taxpayers with respect to the documentation needed for transfer pricing related to intra-group transactions, especially for SMEs (small and medium sized enterprises). However, by introducing the BEPS Actions, the opposite effect has

been achieved: a higher burden is placed on the companies operating in groups. The new approach is based on the guidance issued by the OECD, according to which profits should be allocated to the most important economic activities. The parties which contribute to the economic value of the group should have allocated profits, and these profits should be taxable in their respective jurisdiction. The rule appears to be simple, but its application is extremely difficult in practice. There is a degree of subjective judgment with respect to the level of value created by each entity, in a business carried out worldwide by a group of companies. The allocation of profits to a certain company, on the grounds that it creates value for the business within a group is even more difficult and subjective. This is even more surprising, given that the profit split method has rarely been accepted in the past, for instance in Romania, by the tax authorities. The measurement of the value created by each party of the

group actually involves an allocation of profits between those companies, meaning, in fact, the application of a profit split method.

Detailing the concept of value creation as one of the main drivers for being entitled to a particular share of profits, a company having 3 employees would by definition be a lower value creator compared against a company employing 100 professionals. Companies with a low number of personnel would be deemed not to receive large profits. The OECD emphasizes some critical sectors where countries consider that complex operations should no longer be analyzed under the standard approach, but rather look to who is providing financing, and who has the personnel and the equipment, as well as the know-how and experience. When analyzing the circumstances, focus should be placed on the available commercial opportunities, meaning that it is important to consider whether the company had other options to conduct the business or to enter into other commercial arrangements.

### Standard methodology

Let the costs of B Co. be 1,000 m.u. (i.e. monetary units) per month, and let the services fees charged by B Co. to A Co. be 1,070 m.u. per month, meaning that the taxable profits (excluding the impact of taxation such as non-deductible expenses) would be 70 m.u.

The methodology used in this paper is to assess additional profits assigned to B Co., i.e. a portion of the profits earned by A Co. from the market in country B.

Let the profits earned by A Co. from the advertising contracts signed with customers in country B be 50,000 m.u. per month. The contracts are directly concluded between A Co. and the customers.

### The research methodology undertaken by this paper

A complex question arises: which company contributes to the value of the group and to which extent? There is no methodology provided by legislation in this respect, just guidance brought by BEPS Action 1 and BEPS Actions 8-10 with respect to how to determine the main drivers of value. The entity creating value is entitled to receive profits, as well as the entity providing the financing and, more importantly, the company taking the risks.

The author's research in this paper seeks to identify the main components of the activity carried out which may be considered as creating economic value, and thus generating profits which should be subject to tax.

In the case of applying the profit split method for the above mentioned example, the functions carried out and risks taken can be found in the table below:

**Table no. 1: Functions performed and risks taken**

Functions	B Co.	A Co.
Providing the know-how function	vvv	n/a
Providing the expertize function	vvv	n/a
Providing the strategy function	vvv	n/a
Creativity function	n/a	vvv
Promoting and marketing (in country B) function	vvv	n/a
Technical consulting function	vvv	n/a
Finding the local client function	vvv	n/a
Keeping in touch with the local clients	vvv	n/a
Negotiating the contracts	vv	vv
Risks	B Co.	A Co.
Market risk	vv	vv
Payment risk	vvv	v
Quality risk with respect to the services provided	vv	vv

Note: v = only carries out this function to a limited extent/bears a low risk; vv = does not fully carry out the function/bears moderate risk; vvv = carries out most of the function/bears most of the risk; vvvv = fully carries out the function/bears high risk; n/a = not applicable

Below is a summary of the main resources employed by the companies involved:

**Table no. 2: Resources employed by the companies involved**

Resources	B Co	A Co
Highly specialized personnel		vvvv
Equipment		vvvv
Know-how and experience		vvvv
Financing	n/a	vvvv
Innovative techniques		vvvv
Client relationship personnel	vvv	v

Note: v = only carries out this function to a limited extent/bears a low risk; vv = does not fully carry out the function/bears moderate risk; vvv = carries out most of the function/bears most of the risk; vvvv = fully carries out the function/bears high risk; n/a = not applicable

**Research results**

The tax authorities of country B could consider that more profit should be allocated to B Co. as compared to the 70 m.u. received as a result of the “cost plus” mechanism. The standard 5% rate could be applied to the overall profit derived from advertising services to customers located in country B, meaning 5% x 50,000 = 2,500 (m.u.).

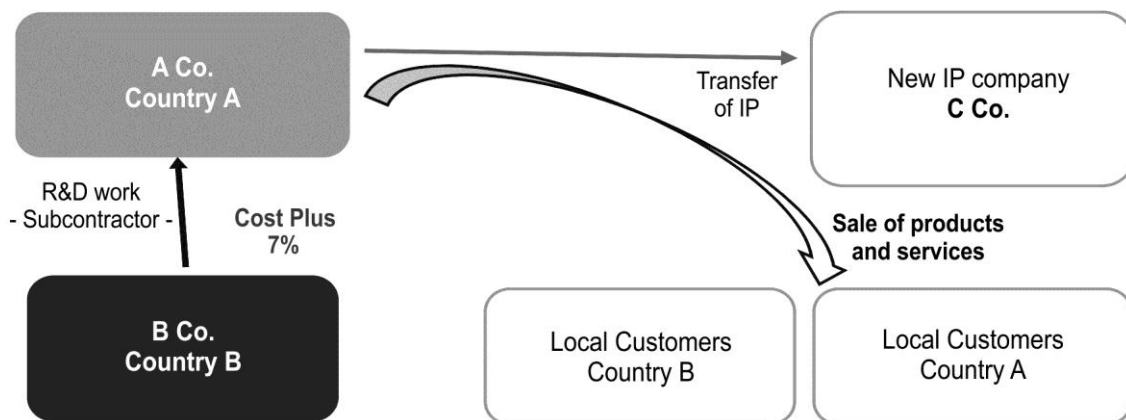
The tax authorities of country A will try to argue that the level of profits which are taxable in Country A should be maintained, as A Co. has the idea, the main resources and the know-how. Such an approach is in contradiction with the purpose of the authorities in country B. Hence, a divergence is expected to arise between the tax authorities' approach across the two countries. Moreover, an increasing number of groups of companies will resort to the amicable procedure or arbitration, leaving the authorities of the two states to reach an agreement. This hampers the process and is expected

to increase the tension level of the transfer pricing adjustments.

**2.3. R&D activities and the derived profits**

Besides the ICT sector, R&D activities are also one of the sectors where the analysis approach will be changed. If A Co. starts a major research and development activity and subcontracts to B Co. the day-to-day activities and tasks for that R&D project, the standard approach would be that B Co. would charge fees to A Co. under a “cost plus” method. The approach may remain the same, but additional questions arise. Who has the financing? Who assumes the risks of non-favorable results of the R&D process? Who decides if a specific R&D project will be continued or stopped? The taking of decisions and risks leads to the assumption that the respective company would be entitled to receive the excess profits from the realization of the R&D project. The level of profits which should be attributed to each company depends on the answers to these questions.

**Figure 1: Example no. 2**



## Standard methodology

Assuming that the costs of B Co. are of 1,000 m.u. per month, the services fees charged by B Co. to A Co. would be 1,070 m.u. per month, meaning that the taxable profits (excluding the impact of taxation such as non-deductible expenses) would be 70 m.u.

The methodology employed in this paper is to assess additional profits to B Co., namely a portion of the profits earned by A Co. from the market in country B.

Let the profits earned by A Co. as a result of the sale of the innovative products to customers in country B be 100,000 m.u. per month. The contracts are concluded between A Co. and the customers directly.

## The research methodology employed by this paper

Another complex question arises: which company

contributes to the value of the group and to which extent? Current legislation provides no methodology in this respect, while BEPS Action 1 and BEPS Actions 8-10 merely give guidance on how to determine the main drivers of value. The entity creating value is entitled to receive profits, as well as the entity providing the financing and, more importantly, the company taking the risks.

The author's research in this paper seeks to identify the main components of the carried out activity, which may be considered as creating economic value, and thus generating profits which should be subject to tax.

In the case of applying the profit split method for the above mentioned example, the functions performed and risks taken can be found in the table below:

Table no. 3: Functions performed and risks taken		
Functions	B Co.	A Co.
Providing the know-how function	v	vvv
Providing the R&D services function	v	vvv
Providing the strategy function	n/a	vvvv
Creativity function	vv	vv
Day to day tasks related to the R&D project	vvvv	n/a
The function of giving instructions	n/a	vvvv
Coordination function	n/a	vvvv
Owning the intellectual property (IP)	n/a	vvvv
Risks	B Co.	A Co.
Market risk	v	vvv
The risk of the R&D project	n/a	vvvv
Payment risk	vvv	v
Quality risk with respect to the services provided	vv	vv

Note: v = only carries out this function to a limited extent/bears a low risk; vv = does not fully carry out the function/bears moderate risk; vvv = carries out most of the function/bears most of the risk; vvvv = fully carries out the function/bears high risk; n/a = not applicable

Below is a summary of the main resources employed by the involved companies:

Table no. 4: Resources employed by the involved companies		
Resources	B Co.	A Co.
Highly specialized personnel		vvvv
Equipment		vvvv
Know-how and experience		vvvv
Innovative techniques		vvvv
Client relationship personnel	vvv	v
Financing	n/a	vvvv

Note: v = only carries out this function to a limited extent/bears a low risk; vv = does not fully carry out the function/bears moderate risk; vvv = carries out most of the function/bears most of the risk; vvvv = fully carries out the function/bears high risk; n/a = not applicable

In the research methodology applied in this paper, the most important issue is who takes the risk of the R&D project, as it may result in good or bad sales results. It is also important to establish who has the know-how, experience and expertise to effectively deploy the R&D project.

In the same context, where A Co. transfers the intellectual property deriving from the intangibles resulting from the R&D activities to C Co., an entity in country C, the arrangement would most likely be seen as lacking in economic substance, since the correct price paid for the transfer, as a single payment or as recurring installments is difficult to establish, because it is not easy to perform a valuation for intangible assets. The actual price depends on the profits generated by the sale of products or services developed through the R&D process.

### Research results

The tax authorities of country B could consider that more profits should be allocated to B Co. as compared to the 70 m.u. received as a result of the “cost plus” mechanism. The standard 5% rate could be applied to the overall profit derived from the sale of the innovative products to customers in country B, i.e.  $5\% \times 100,000 = 5,000$  (m.u.).

The tax authorities of country A will try to argue that the level of profits which are taxable in Country A should be maintained, as A Co. brought the idea, the main resources and the know-how. More importantly, A Co. bears the risk of the failure of the R&D project: if sales are poor, A Co. bears the losses from the R&D project, while B Co. is guaranteed a profit of 70 m.u.

Because companies in the R&D and ICT sectors rely on innovation and development of know-how, there are many cases where intellectual properties (IP's) are registered. BEPS Action 1 expresses concern that the transfer of intellectual properties may not be at “arm's length” due to the difficulties in valuing and also because of the differences between tax administrations (when foreign transactions are carried out). Furthermore, BEPS Action 1 sets out that there should not be inconsistencies between IP holders and the functions carried out, risks assumed

and assets used on the value chain in a multinational group. Thus, the IP holder in the economic chain in a multinational group should be the company that created added value, innovated and developed know-how, irrespective of the tax burden in its country or whether that company is a “parent” company or not.

In this context, the tax authorities in country A would try to get back the profits earned by C Co. in country C, from owning the intellectual property created in A Co.'s R&D projects.

Such an approach would also create tensions between the tax authorities of the A, B and even C, countries, making the respective authorities most likely part of an amicable process of determining the level of profit in each country, the aim of the groups being to respect the well-established principle of international taxation, i.e. the avoidance of double taxation.

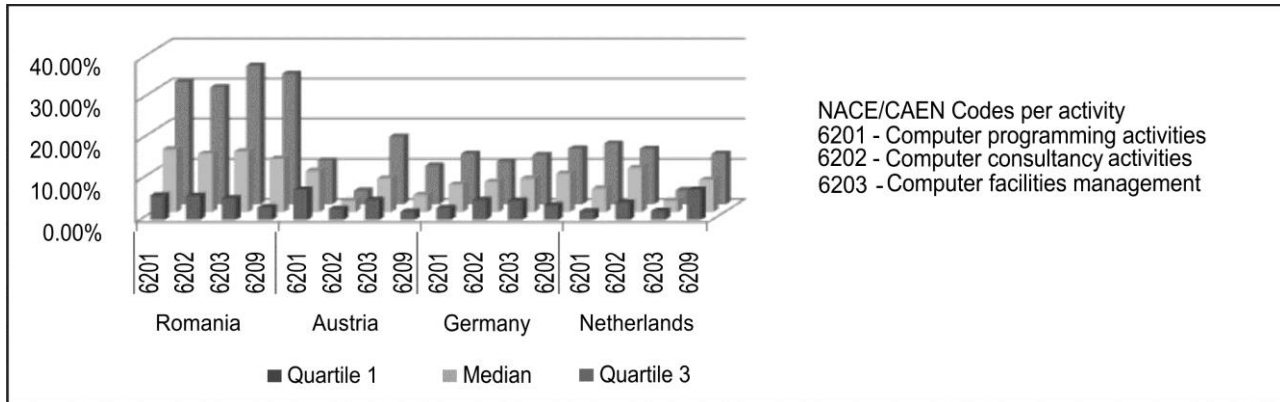
## 3. Profit earned by ICT companies in Romania and other European countries

### 3.1. The digital sector in European countries

Innovation is seen by the European Commission as vital for Europe in order to increase the competitiveness of European products and services, as well as to improve processes – business processes, production processes, as well as delivery and logistics processes. Many activities have the potential to become partially automatized, by embedding software components into their processes: flow monitoring, out tasks performing, information processing and many other activities.

It may also be an effect of the still low direct and indirect costs registered in Romania, as compared to the other countries, but nevertheless there is a significant volume of ICT projects in Romania, carried out as a direct result of the proficiency of local personnel who specializes in ICT.

**Figure no. 2: Profitability ranges for the ICT industry in 2015**



Source: Amadeus Database, version December 2016

**Table no. 5: Average of profitability ranges for ICT industries per NACE code in Romania, Austria, Germany and Netherlands**

NACE Code Rev. 2	1 <sup>st</sup> Quartile	Median	3 <sup>rd</sup> Quartile
6201	5.58%	10.96%	18.03%
6202	4.61%	8.37%	14.46%
6203	5.09%	10.64%	21.30%
6209	3.00%	9.07%	18.73%

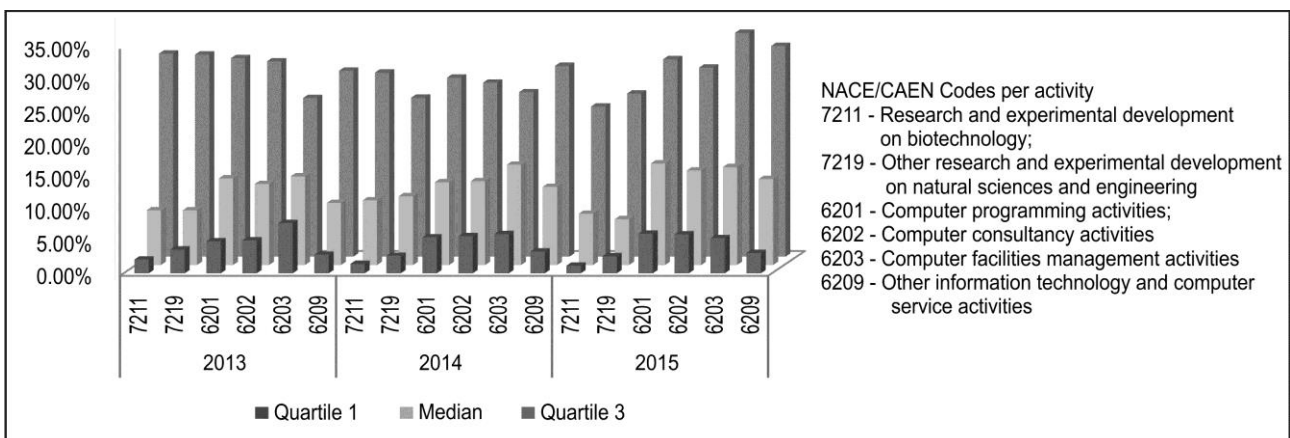
Source: Amadeus Database, version December 2016

### 3.2. The Digital Sector in Romania

Romania is the home for a concentration of micro-multinationals in various regions, such as in Cluj-Napoca, Iasi, Timisoara, in addition to well-known multinationals

operating in the ICT sector. The development of the ICT sector is reflected in the analysis below, in which the profitability of the companies operating in Romania in this sector is presented as a graph.

**Figure no. 3: Profitability ranges for the R&D and ICT industries in Romania**



Source: Amadeus Database, version December 2016

The profit margin earned by Romanian registered companies which operate in sectors such as ICT or R&D is quite diverse. Statistically speaking, the less profitable ICT companies earn a margin of 2-3%, but that can be even lower. At the same time, most

companies earn a margin of at least 7% and margins such as 20% or above can also be seen. Such high margins arise in cases where the know-how and innovation component plays an important role in product development.

**Table no. 6: Average of profitability ranges for the R&D and ICT industries per NACE code in Romania**

NACE Code Rev. 2	1 <sup>st</sup> Quartile	Median	3 <sup>rd</sup> Quartile
7211	1.59%	8.81%	27.72%
7219	3.02%	8.74%	27.03%
6201	5.55%	13.98%	29.66%
6202	5.62%	13.38%	28.80%
6203	6.43%	14.80%	28.21%
6209	3.14%	11.68%	30.30%

Source: Amadeus Database, version December 2016

### Research results

The ICT sector is very important to Romania, as it generates significant taxable profits, offers a big number of highly qualified jobs and moreover, innovation and technology become resources for the Romanian economy, which may be used for a future increase of competitiveness.

### Conclusions

Focusing to a greater level of detail, the objective of this paper is to analyze and assess the magnitude of the taxable profits registered in the ICT sector in Romania, as well as the impact the new regulations launched by OECD through the issuing of BEPS Actions may have upon the level of profits in this sector. Specifically, the importance of the Romanian ICT sector is determined via the taxable profits the industry brings as a contributor to the Government budget. The analysis focuses on Romania, as well as on several European countries. As ICT is essentially an innovative sector, the author extended the analysis of the Romanian ICT sector with the R&D activities. The interferences of the new OECD regulations regarding transfer pricing approach in the ICT and R&D sector are analyzed by performing two case studies. The results of the research undertaken via the two case studies reveals how the European

countries will seek to increase the level of the taxable corporate income declared by the ICT and R&D companies registered in that specific tax jurisdiction.

The effect of government policies should also be taken into account. Specifically, there is a commitment to support R&D, as well as the ICT sector. Romania is aligned to the EU strategy of promoting innovation and the ICT sector is the closest to creation of innovation, as compared to others. Companies can see the support for ICT in Romania, thus being reflected also in higher margins obtained by Romanian registered companies as compared to highly technologized countries such as Austria, Germany, Switzerland, and the Netherlands.

Due to the fact that BEPS's main topic is corporate income tax, we should also take into consideration how countries react to the continuous market development, and how can they adapt their indirect taxation in order to obtain a more successful collection rate. Therefore, BEPS proposes that countries use criteria based on the services' actual consumption place in order to exempt imported goods with low value, and identify the place of taxation for the supplies of services between a company and its customer.

## REFERENCES

1. Bakker, A. (2009), Transfer pricing and business restructurings, IBDF.
2. Bakker, A. and Levey, M.M. (2011), Transfer pricing and dispute resolution, IBDF.
3. Lamensch, M. (2015), European value added tax in the digital era, IBDF.
4. Corlaci, A. and Tiron Tudor, A. (2014), Cercetare privind percepția profesioniștilor din România din domeniul financiar-contabil referitoare la unele aspecte specifice prețurilor de transfer, *Audit Financiar*, vol. XII, no. 109(1), pp. 11-17.
5. Feleagă, L. and Neacșu, I. (2016), Transfer pricing documentation – an efficient measure for combating the base erosion and profit shifting?, *Audit financiar*, vol. XIV, no. 2(134)/2016, pp. 183-194, DOI 10.20869/AUDITF/2016/134/183.
6. Neacșu, I. and Feleagă, L. (2017), Evolutions and tendencies regarding the Romanian transfer pricing legislation: is there a need for change?, *Audit Financiar*, vol. XV, no. 1(145)/2017, pp. 65-82, DOI: 10.20869/AUDITF/2017/145/65.
7. Pătroi, D., Cuciureanu, F. and Radu, V. (2013), *Transfer pricing. Between tax optimization and international fiscal evasion*, C.H. Beck Publishing House, București.
8. OECD (2010), Transfer pricing guidelines for multinational enterprises and tax administrations (July 2010), available at [http://www.ilssole24ore.com/pdf2010/SoleOnLine5/\\_Oggetti\\_Correlati/Documenti/Norme%20e%20Tributi/2011/02/istruzioni-uso-societa-perdite-fiscali/ocse-linee-guida-2010-prezzi-trasferimento.pdf](http://www.ilssole24ore.com/pdf2010/SoleOnLine5/_Oggetti_Correlati/Documenti/Norme%20e%20Tributi/2011/02/istruzioni-uso-societa-perdite-fiscali/ocse-linee-guida-2010-prezzi-trasferimento.pdf), accessed on 10.04.2017.
9. OECD (2015), G20 Base erosion and profit shifting project – Action 1: Addressing the tax challenges of the digital economy (Final Report), available at <http://www.oecd.org/ctp/addressing-the-tax-challenges-of-the-digital-economy-action-1-2015-final-report-9789264241046-en.htm>, accessed on 10.04.2017.
10. OECD (2015), G20 Base erosion and profit shifting project – Actions 8-10: Aligning transfer pricing outcomes with value creation (Final Report), available at <http://www.oecd.org/ctp/aligning-transfer-pricing-outcomes-with-value-creation-actions-8-10-2015-final-reports-9789264241244-en.htm>, accessed on 10.04.2017.
11. OECD (2015), Policy brief Taxing multinational enterprises (2015, October), available at <https://www.oecd.org/ctp/policy-brief-beps-2015.pdf>, accessed on 10.04.2017.
12. Ordinul Președintelui Agenției Naționale de Administrare Fiscală nr. 442/2016 privind valoarea tranzacțiilor, termenele de pregătire, conținutul și condițiile în care poate fi solicitat și prezentat un dosar de documentare privind prețul de transfer și procedura de ajustare/estimare a prețurilor de transfer, available at [https://static.anaf.ro/static/10/Anaf/legislatie/OPAN\\_AF\\_442\\_2016.pdf](https://static.anaf.ro/static/10/Anaf/legislatie/OPAN_AF_442_2016.pdf), accessed on 10.04.2017.
13. Ordinul președintelui Agenției Naționale de Administrare Fiscală nr. 222/2008 privind conținutul dosarului de documentare privind prețurile de transfer, available at [https://www.avocatnet.ro/articol\\_11212/ANAF-Ordin-nr-222-2008-privind-continutul-dosarului-preturilor-de-transfer.html](https://www.avocatnet.ro/articol_11212/ANAF-Ordin-nr-222-2008-privind-continutul-dosarului-preturilor-de-transfer.html), accessed on 10.04.2017.
14. Codul Fiscal Român introdus prin Legea nr. 227/2015 aplicabilă începând cu ianuarie 2016, available at [https://static.anaf.ro/static/10/Anaf/legislatie/L\\_227\\_2015.htm](https://static.anaf.ro/static/10/Anaf/legislatie/L_227_2015.htm), accessed on 10.04.2017.
15. Modelul Convenției fiscale privind impozitul pe venit și impozitele pe capital, available at <https://ro.scribd.com/document/125287572/OECD-conventia-model-pdf>, accessed on 10.04.2017.
16. [https://ec.europa.eu/growth/industry/innovation\\_en](https://ec.europa.eu/growth/industry/innovation_en).

---

# The economic implications of international migration – an analysis of capital remittances applied to Romania

---

*Maria – Monica HARALAMBIE,*  
*The Bucharest University of Economic Studies, Romania*

*Bogdan Ștefan IONESCU,*  
*The Bucharest University of Economic Studies, Romania,*  
*E-mail: haralambie.monica@gmail.com*

## Abstract

*This paper aims to assess some of the positive and negative effects of international migration on Romania. In the first part, our study aims to statistically validate based on data on the economic and social reality of Romania between 2008 and 2015, the emigration reasons of 266 Romanians living abroad.*

*The second part of our article studies the effect of capital remittances on the well-known and applied law of Okun from two different perspectives: destination countries and origin countries.*

**Keywords:** *International migration, emigrant, Okun's law, economic effects of migration, migration causes, questionnaire.*

**JEL Classification:** *F22, F24*

### To cite this article:

Haralambie, M.M. and Ionescu, B.Ș. (2017), The economic implications of international migration – an analysis of capital remittances applied to Romania, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 667-676, DOI: 10.20869/AUDITF/2017/148/667

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/667>  
Received: 27.04.2017  
Revised: 07.05.2017  
Accepted: 08.05.2017

## Introduction and literature review

In recent years, international migration has become a subject of interest for both the general public, who began to understand the effects of this phenomenon, as well as for the public institutions and State representatives, searching a more effective way to manage it.

Various studies have been conducted on the subject of international migration: Boyd (2003), Clark et al. (2007), Mayda (2010), Ortega and Peri (2012), Beine and Parsons (2014).

Assessing the migration takes into account the reasons for which a person decides to leave their home country. To support this, the international literature distinguishes between voluntary and involuntary migration and analyses separately migrant's most common drivers.

As defined by the International Organization for Migration, a refugee or asylum seeker is a person who leaves their home country because of serious dangers and applies for asylum in another state. A negative resolution to the refugee's asylum application will send him back home. According to the latest Eurostat reports, political conflicts in countries such as Syria, Afghanistan or Iraq have caused a significant increase in the asylum applications in Germany, Hungary, Sweden, Austria and Italy.

Involuntary migration was the subject of research for authors such as Oliver-Smith and Hansen (1982) and Richmond (1988), who analysed the political, environmental or social factors which determined the relocation of some countries populations, as well as the response of the states to the refugee problem (Khoo et al., 2008; Schaeffer, 2009).

Voluntary migration is determined mainly by economic and social decisions. In this respect, we distinguish between the economic migrant, whose main reason considered when leaving home country is related to an expected improvement in his own financial situation (i.e. financial and professional gains), and the social migrant, who is driven by the desire to improve his family's standard of living (education, health, political environment). The importance of economic and social factors in the context of international migration was carefully documented (Bauer and Zimmermann, 1999; Hatton and Williamson, 2002; Westmore, 2015).

EU countries also face the intra-Community migration, which is based on the principle of free movement and

residence of EU population. The worsening of international migration towards EU countries over the last four years is explained by various causes. If we refer to the figures reported by Eurostat for 2014, of the 3.8 million people who moved to one of the 28 EU member states, only 1.6 million were citizens of third-countries, while the remaining immigrants were Europeans, driven by the desire of welfare, rather than the political and military conflicts in their home country, as for the others. Thus, when discussing about the causes of international migration, literature often refers to the gravity model that considers social, economic or political imbalances between the home country and the destination country (Cuaresma, Moser and Raggl, 2013).

Although the gravity model (Amiot, 2016) argues that international migration phenomenon is determined by a number of push factors in the home country as opposed to pull factors in the destination country, Eurostat data for 2014 shows that the same European countries which are very attractive for immigrants prove to be unattractive for its own citizens. Countries such as Germany (884.9 thousands), United Kingdom (632.0 thousands) and France (339.9 thousands) recorded the highest number of immigrants in 2014, followed by Spain (305.5 thousands) and Italy (277.6 thousands). Meanwhile, almost the same countries faced significant emigration, official data reporting a large number of people who left these countries: 400.4 thousands emigrants in Spain, 324.2 thousands in Germany and 319.1 thousands in United Kingdom.

Our research followed a qualitative, questionnaire-based approach, focusing on assessing the main reasons that led Romanians to leave their home country and their behaviour in terms of remittances transfer and spending of money when returning home.

In order to quantitatively validate the impact of capital remittances on the economy, we applied Okun's law on Gross Domestic Product (GDP) and unemployment rate and studied the relationship between these two factors.

## 1. Research methodology – the questionnaire-based approach

In order to qualitatively analyse the reasons for which Romanians are leaving their home country, as well as the capital remittances phenomenon, we conducted a questionnaire-based study.

The questionnaire was designed so as to determine whether there is a link between the migrant’s destination country and their behaviour in terms of: capital remittances, how often they return home and the amount of money spent on their return.

Starting from the objectives set, we developed a set of 15 questions: part with single answer, part with multiple choice answers, as well as Likert questions.

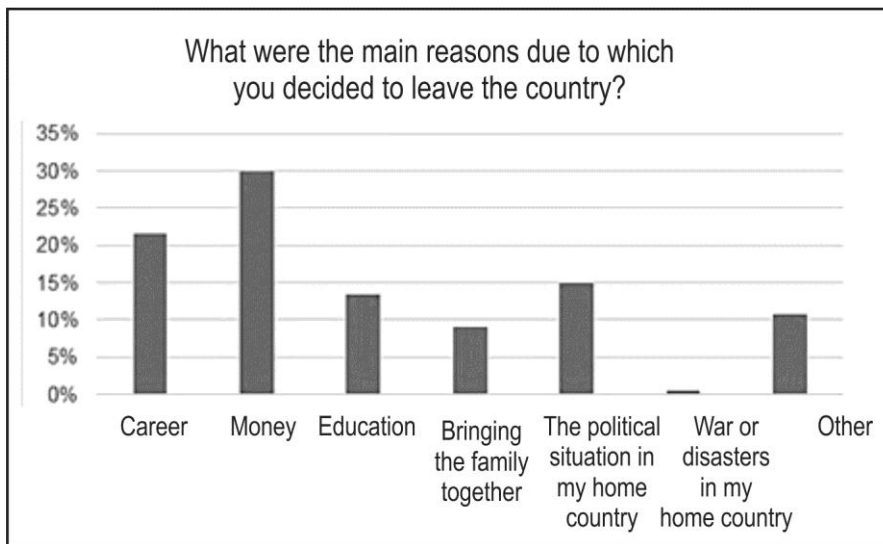
The questionnaire was built using a free online tool and was distributed during 15 January and 15 March 2017, through social networks and e-mail, targeting the Romanians living in other countries.

After assessing the data quality and excluding the incomplete responses, a total number of 266 valid responses resulted, which were further analysed using the Microsoft Excel tool.

### 1.1. Hypothesis 1: Money and lack of jobs are the top reasons for emigration

Most respondents considered that the main reasons taken into account when leaving the country were represented by money (30%), career (22%), the political situation in the home country (15%), education (13%) and bringing the family together (9%).

**Figure no. 1: The chart of responses for the question “Which were the main reasons due to which you decided to leave the country?”**



The data published by Eurostat and the Romanian Institute of Statistics revealed that information on the number of Romanian emigrants is limited to the period between 2008 and 2015. Based on the responses to the questionnaire, we created a regression in which we set as dependent variable the number of emigrants leaving Romania (variable y) and the following independent variables:

- Average net nominal monthly earnings in Romania, as proxy factor for “money” (variable x1);

- Unemployment rate for Romania, as proxy factor for “career” (variable x2);
- enrolment rate in education of the school population, as proxy factor for “education” (variable x3); and
- Income inequality index, as proxy factor for “political situation in the home country” (variable x4).

The regression equation resulted from analysing the afore-mentioned variables is the following:

$$y = 694857.15 - 500.02 \times x1 + 4223.27 \times x2 - 3798.21 \times x3 + 81469.64 \times x4 \quad (1)$$

**Table no. 1: Regression (1) statistics**

Regression Statistics	
Multiple R	0.978297587
R Square	0.957066169
Adjusted R Square	0.899821062
Standard Error	14967.89442
Observations	8

The coefficient of determination  $R^2$  of 95.7% indicate a strong correlation between the number of emigrants and the financial gains, career, political situation in the home

country and education factors, and, also, the signs of the variables in the above equation intuitively predict the actual situation in Romania.

**Table no. 2. Regression (1) results**

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	694857.16	427221.64	1.63	0.20	(-664752.78)	2054467.09
Average net nominal monthly earnings	(-500.03)	95.73	(-5.22)	0.01	(-804.68)	(-195.37)
Unemployment rate	4223.28	6171.14	0.68	0.54	(-15416.05)	23862.61
Enrolment rate in education of the school population	(-3798.21)	3355.95	(-1.13)	0.34	(-14478.34)	6881.91
Income inequality index	81469.65	15201.59	5.36	0.01	33091.40	129847.89

## 2.2. Hypothesis 2: Money transfer methods don't significantly depend on the transfer cost

The Rivera-Batiz model (1982) analyses the migration effects on home countries and concludes that the home country's economy is affected by lower consumer opportunities of the migrant population. The model was extended by Djajic (1986) through adding the effect of capital remittances sent by migrants to their home country relatives to the model. The conclusion of the new model proposed by Djajic (1986) is that if remittances exceed a certain threshold, the remaining home country population will benefit due to increased consumption. According to a Worldbank study from 2004, remittances of migrants to their origin country have a significant effect on the economy of developing countries in Africa, Asia, Middle East and Latin America. Adams and Page 2005 used a statistical model based on migration data, remittances and the poor economic situation of the 71 developing countries to demonstrate the positive effect of international migration on these countries' economies.

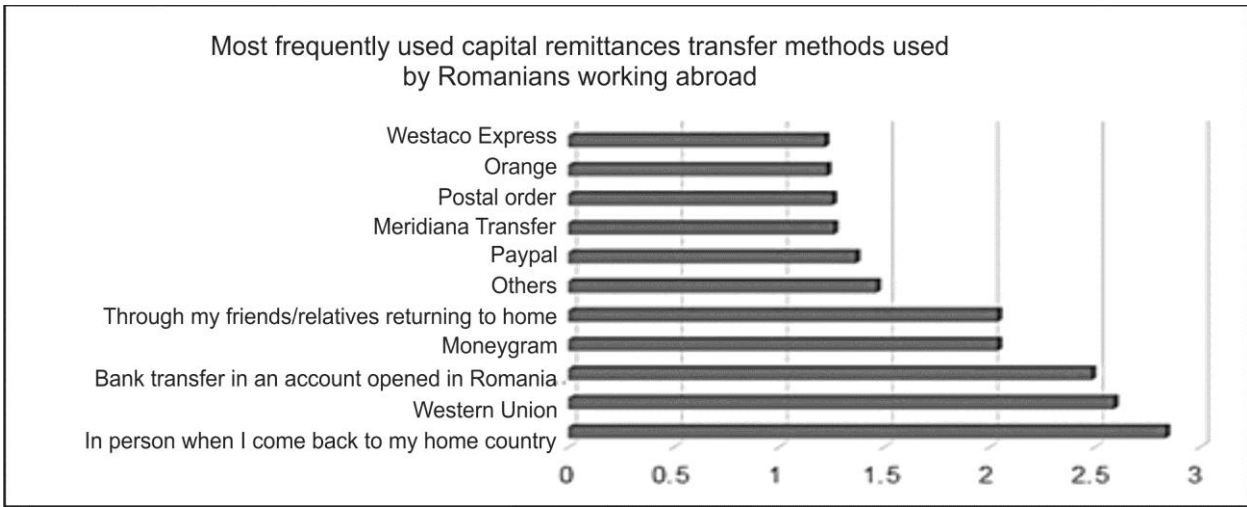
Eurostat data for 2015 show a position change for the EU: if during the last years the EU countries faced a net outflow of capital, in 2015 the situation was

reversed. In other words, foreign immigrants working in the EU transferred in 2015 around 20.4 billion euros to their home countries, while the amounts that entered the EU accounted for 21.1 billion euros, resulting in a positive net inflow of 0.7 billion euros. Romania is among the laggards in terms of the percentage of foreign citizens in the total population: only 0.4%, compared to countries such as Luxembourg (45.9%) and Liechtenstein (33.7%). This explains why the net balance of remittances transferred by population working abroad (i.e. capital transfers in the home country minus payments of foreigners working in one country towards another European country) is positive for countries like Romania, Poland, Serbia and Portugal and negative for western countries, much sought by intra-Community migrants, such as Germany, France and Italy.

Questionnaire results show that 72% of respondents frequently send money back to their home country, out of which 27% remit amounts monthly, 35% once every few months and 39% maximum 2 times a year.

The most common methods for transferring capital remittances to Romania are represented by: personally when returning home, followed by Western Union and bank transfer to an account opened in Romania.

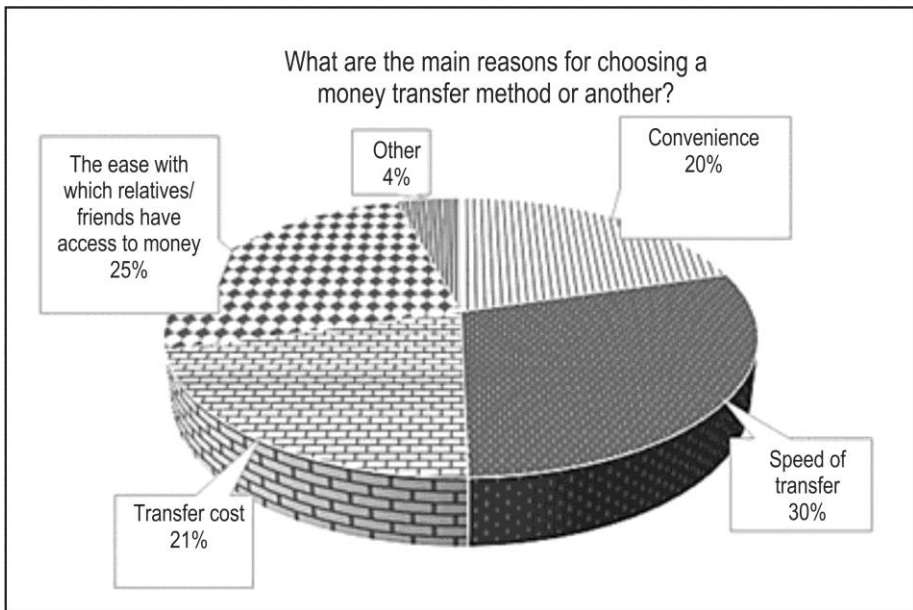
**Figure no. 2. The chart of responses for the question “Please note with grades from 1 to 5 (1 - least frequent, 5 - most often) the ways used to send money to relatives / friends in your home country”**



However, if we focus on the question regarding the reasons of choosing one transfer method or another, the study reveals that top results include reasons related to

the ease with which relatives and friends have access to money and speed of transfer, while only on the third place on the respondents' list is the transfer cost.

**Figure no. 3. The chart of responses for the question “What are the main reasons for choosing a money transfer method over another?”**



### 2.3. Hypothesis 3: The amount of money spent when returning home depends on the destination country of the sender

We further looked into the responses related to the frequency of returning to Romania and the length and scope of holidays spent in their home country.

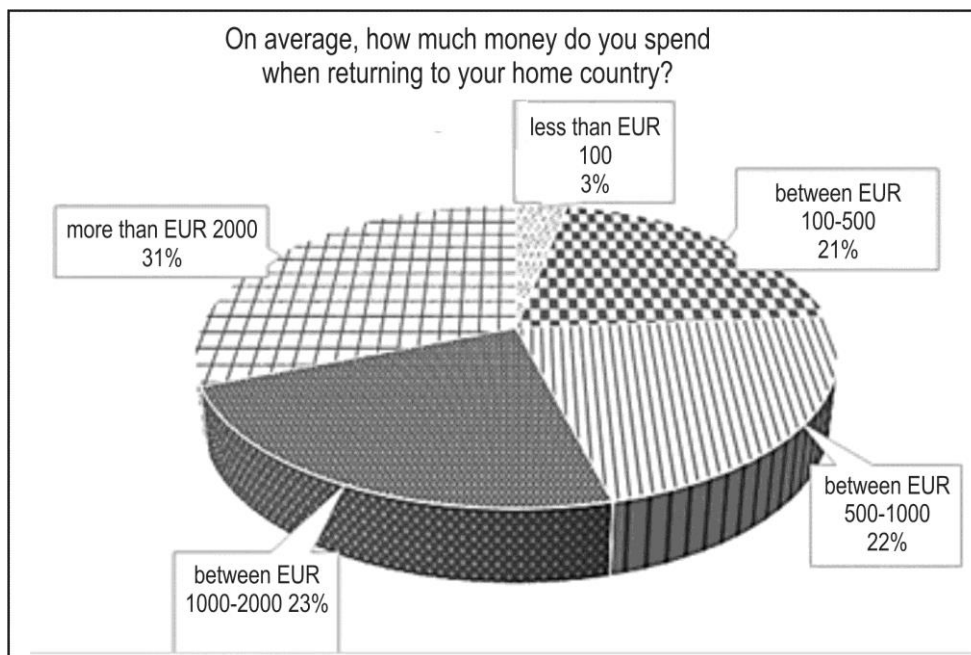
The question on frequency of Romanians returning home shows that 34% of respondents return home less frequently than annually, 30% return at least once a year, 22% two times a year, while the rest return at least every three months. However, by correlating the responses with the respondents distribution into destination countries, the results are intuitive given that 34% of respondents are established in the USA, 17% in Ireland, 7% in

Germany, as well as in Lithuania, followed by the UK, France, Poland and others.

Regarding the length of time spent in Romania by the EU workers, about half of the respondents stated that they spend two weeks with their loved ones, one quarter spend more than a month, while the rest spend less than two weeks at home.

The amount of money spent in Romania during their short-term returns are between 100 euros (in case of 3% of the respondents) and 2,000 euros (in case of 31% of the respondents), but we did not manage to find a correlation between the destination country and the volume of amounts spent on their short-term returns. Thus, we can conclude that the amount of money spent when returning home varies based on social and behavioural variables, rather than the destination country.

**Figure no. 4. The chart of responses to the question "On average, how much money do you spend when returning to your home country?"**



The categories of products and services on which Romanians spend money when returning home were also analysed. Results showed that approximately one third of the respondents choose to spend their money on leisure (parties, holidays), 19% on domestic consumption products (food, supplies, etc.), 13% on health (medical and dental treatments), 13% on clothing

and personal care products, 11% on construction or repairs to house, followed, by appliances, investments (bank accounts and bank deposits, real estate or financial investments), agriculture and others.

As such, the hypothesis that the amount of money spent by Romanians upon their short-term return home depends on the destination country was rejected, as

analysing the 266 responses to the questionnaire did not allow us to identify any statistical correlation between these amounts and their destination countries.

### 3. Migration effects on unemployment rate changes

Economic history showed that there is a link between a country's economic growth and the unemployment rate of that country. Such a relationship was measured by the economist Arthur Okun for the first time in 1962, who analysed the relationship between the gross domestic product (GDP) of the United States and the unemployment rate recorded between 1948 and 1960, concluding that an average increase of 1% in the GDP generated a decrease of 0.4% in the unemployment rate. The equation describing Okun's Law is:

$$\Delta UN = 1.4 - 0.4 \times \Delta GDP \quad (2)$$

After 1970, many economists have studied the validity of the above equation for various countries and time frames: Moosa (1997), Lee (2000), Harris and Silverstone (2001), Sögner and Stiassny (2002), Moazzami and Dadgostar (2011), including its applicability to the Romanian environment: Caraiani (2006), Turturean (2007), Dinu, Marinas, Socol and Socol (2011). Studies have shown that the basic principles of Okun's Law (i.e. that a change in the economic potential of the country will cause a change in the opposite direction in the

unemployment rate), are valid for most countries and most time frames. However, differences in Okun's coefficient calculated value can be influenced by many factors, including the migration recorded in the analysed country.

Our starting hypothesis was that Okun's Law is applicable to Romania as well, but the relationship between the two variables (GDP and unemployment rate) is weaker in countries facing a significant level of emigration, as opposed to those receiving a large influx of immigrants. Thus, we calculated and analysed the relationship between GDP growth and the change in the unemployment rate for 5 countries: Romania, Bulgaria and Spain, countries that are experiencing a population outflow, on one hand, and Italy and Germany, favourite destinations of immigrants, on the other hand.

We started from the following equation:

$$y - y^* = \alpha \times (u - u^*) \quad (3)$$

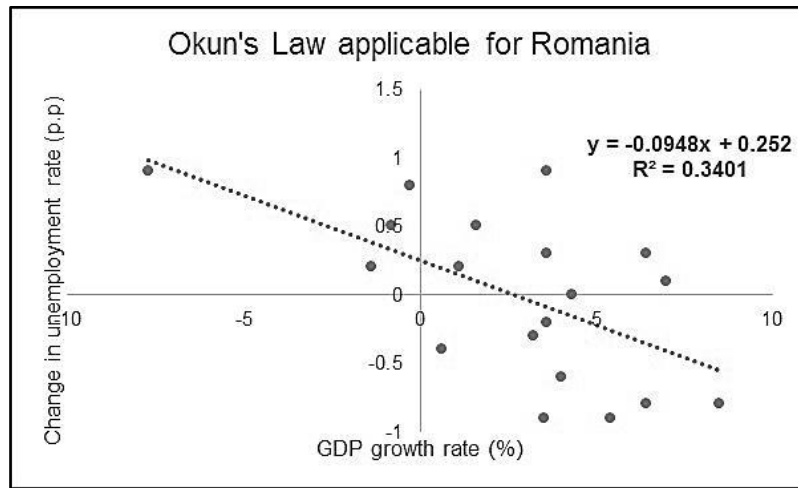
where  $y - y^*$  represents the difference between the real GDP and the potential GDP of one country (i.e. GDP from which we eliminated the cyclic component by applying the Hodrick-Prescott - "HP" filter), and  $u - u^*$  represents the difference between unemployment and natural unemployment (i.e. the sum of the frictional and structural unemployment).

Based on data published by Eurostat, we determined Okun's equation valid in the period under review:

**Table no. 3. Application of Okun's Law on analysed countries**

Country	Migration flow	Assessed time frame	Okun's equation	R <sup>2</sup>	GDP growth level that would result in a constant unemployment rate
Romania	emigration	1996 - 2016	- 0.0948x + 0.252	34.01%	2.66%
Spain	emigration	1995 - 2016	- 0.8765x + 1.4627	70.92%	1.67%
Bulgaria	emigration	1996 - 2016	- 0.452x + 0.8066	32.69%	1.78%
Italy	immigration	1995 - 2015	- 0.313x + 0.1774	54.37%	0.57%
Germany	immigration	1991 - 2016	- 0.2176x + 0.2156	25.76%	0.99%

**Figure no. 5. Okun's Law applied to Romania on 1996 – 2016 time frame**



Based on the above analysis, we noted that for Romania, an increase of 2.66% per year in the GDP would keep the unemployment rate constant, while in the case of Italy for example, a smaller increase of only 0.99% would be sufficient to keep the unemployment rate at the same level as the previous year. In other words, economies experiencing a net outflow of migrants, require a higher increase in GDP in order to determine a noticeable fall in the unemployment rate. This is mainly explained by two aspects:

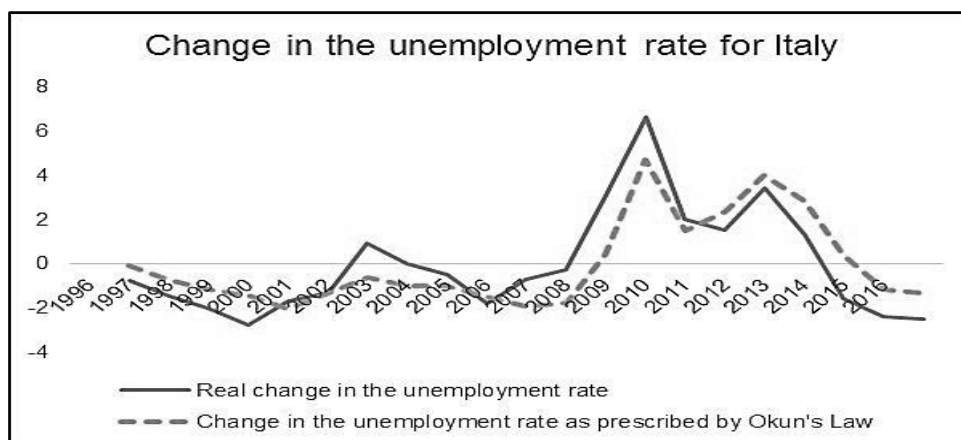
- In countries such as Romania, Spain, Bulgaria (countries with massive emigration), part of the active population recorded among the unemployed, decides to leave the country, but these people are

still officially reported in the unemployment statistics. Even if the GDP goes up, the decrease in the unemployment rate isn't so significant, because the data on which it is based still includes records of some emigrants; and

- Part of the GDP growth is due to a high volume of capital remittances transferred by emigrants, therefore as the increase cannot be associated with the creation of new opportunities in the local market, it would not affect the unemployment rate.

On the other hand, we observe that for countries that do not face such a massive outflow of working population, such as Italy, Okun's relationship is more visible:

**Figure no. 6. Unemployment rate changes in Italy based on Okun's Law**



## Conclusions

An in-depth analysis on a subject as complex as international migration should start with an understanding of the reasons people have for leaving their home country and should continue with the study of its effects, which are already visible at social, economic and political levels.

When focusing on the causes of migration, our questionnaire showed that the reasons of Romanians, in particular, and, migrants, in general, are closely connected with the economic, political and social situation from their home countries. Thus, using only four proxy variables in order to illustrate the reality of Romanian economy, we showed that there is a close relationship between four variables: the unemployment rate, the average net nominal monthly earnings in Romania, the income inequality index and the degree of inclusion in education of the school population, and number of emigrants from Romania between 2008 and 2015. This analysis can be further extended through introduction of other independent variables into the model and by thoroughly studying the influence of each factor on the

volume of net emigration from Romania.

In terms of economic effects of the migration, we applied a well-known and widely used economic model, namely Okun's Law, on data regarding the change in the GDP and change in the unemployment rate for five states: three of them with a net outflow of migrants (Romania, Bulgaria and Spain) and two of them with a net inflow of migrants (Italy and Germany). The results indicate that the change in the unemployment rate is more sensitive to changes in the GDP in countries such as Italy or Germany, as benchmarks for destination countries, while the change is more difficult to be observed in countries such as Romania, Bulgaria or Spain, as home countries. This is explained mainly by the impact of capital remittances on the economy of the origin country.

Thus, our quantitative and qualitative research revealed the increasing impact of international migration on countries, both from an economic perspective and a social one. Understanding the causes and effects of this phenomenon will allow states to learn to effectively manage migration and be able to benefit from its positive effects.

## REFERENCES

1. Adams, H. Jr. and Page, J. (2005), Do international migration and remittances reduce poverty in developing countries? *World Development*, vol. 33, no. 10, pp. 1645-1669, DOI 10.1016/j.worlddev.2005.05.004.
2. Bauer, T. and Zimmermann, K. (1999), Assessment of possible migration pressure and its labour market impact following EU enlargement to Central and Eastern Europe. *A Study for the Department for Education and Employment*, Bonn.
3. Beine, M. and Parsons, C. (2014), Climatic factors as determinants of international migration, *The Scandinavian Journal of Economics*, vol. 117, no. 2, pp. 723 – 767, DOI 10.1111/sjoe.12098.
4. Boyd, M. and Grieco, E. (2003), *Women and migration: Incorporating gender into international migration theory*, Available at <http://incedes.org.gt/Master/boydgriecodiez.pdf>, accessed on 25.03.2017.
5. Caraianni, P. (2006), Alternative methods of estimating the Okun coefficient. Applications for Romania, *Romanian Journal of Economic Forecasting*, vol. 4, pp. 82 – 89.
6. Clark, X., Hatton, T. and Williamson, J. (2002), Explaining US immigration 1971 – 1998, *Centre for Economic Policy Research Discussion Paper*, no. 453, available at <https://openresearch-repository.anu.edu.au/bitstream/1885/40574/3/DP453.pdf>, accessed on 25.03.2017.
7. Cuaresma, J.C., Moser, M. and Raggl, A. (2013), On the determinants of global bilateral migration flows, *European Commission (European Research Area) Working Paper*, no. 5, Available at < [https://www.econstor.eu/bitstream/10419/125661/1/WWWforEurope\\_WPS\\_no005\\_MS14.pdf](https://www.econstor.eu/bitstream/10419/125661/1/WWWforEurope_WPS_no005_MS14.pdf)>, accessed on 25.03.2017.
8. Dinu, M., Marinaş, M.C., Socol, C. and Socol, A.G., (2011), Testing of the Okun's Law in Romania, *Economic Computation & Economic Cybernetics Studies & Research*, vol. 45, no. 1, pp. 1-15.
9. Djajic, S. (1986), International migration, remittances and welfare in a dependent economy,

- Journal of Development Economics*, vol. 21, no. 2, pp.229-234, DOI 10.1016/0304-3878(86)90059-3.
10. Eurostat, (2017), *Database*, available at <<http://ec.europa.eu/eurostat/data/database>>, accessed on 8.02.2017.
  11. Harris, R. and Silverstone, B. (2001), Testing for asymmetry in Okun's law: A cross-country comparison, *Economics Bulletin*, vol. 5, no. 2, pp. 1-13.
  12. Hatton, T. and Williamson, J. (2002), What fundamentals drive world migration?, *National Bureau Of Economic Research, Working Paper* 9159, DOI 10.3386/w9159.
  13. Institutul Național de Statistică (2017), *Database*. Available at <http://statistici.insse.ro/shop/>, accessed on 4.03.2017.
  14. Khoo, S.E., Hugo, G. and McDonald, P. (2008), Which skilled temporary migrants become permanent residents and why, *International Migration Review*, vol. 42, no. 1, pp. 193-226, DOI 10.1111/j.1747-7379.2007.00118.x.
  15. Lee, J. (2000), The robustness of Okun's Law: Evidence from OECD countries, *Journal of Macroeconomics*, vol. 22, no. 2, pp. 331-356, DOI 10.1016/s0164-0704(00)00135-x.
  16. Mayda, A.M. (2009), International migration: A panel data analysis of the determinants of bilateral flows, *Journal of Population Economics*, vol. 23, no. 4, pp. 1249 - 1274, DOI 10.1007/s00148-009-0251-x.
  17. Moazzami, B. and Dadgostar, B. (2011), Okun's Law Revisited: Evidence from OECD Countries, *International Business & Economics Research Journal*, vol. 8, no. 8, DOI 10.19030/iber.v8i8.3156.
  18. Moosa, I. (1997), A cross-country comparison of Okun's coefficient, *Journal of Comparative Economics*, vol. 24, no. 3, pp. 335-356, DOI 10.1006/jcec.1997.1433.
  19. Oliver-Smith, A. and Hansen, A. (1982), Involuntary migration and resettlement: causes and contexts, *Westview Press*, pp. 1-9.
  20. Ortega, F. and Peri, G. (2013), The effect of income and immigration policies on international migration, *Migration Studies*, vol. 1, no. 1, pp. 47-74, DOI 10.3386/w18322.
  21. Richmond, A. (1988), Sociological theories of international migration: The case of refugees, *Current Sociology*, vol. 36, no. 2, pp. 7-25, DOI 10.1177/001139288036002004.
  22. Rivera-Batiz, F. (1982), International migration, non-traded goods and economic welfare in the source country, *Journal of Development Economics*, vol. 11, no. 1, pp. 81-90, DOI 10.1016/0304-3878(82)90043-8.
  23. Schaeffer, R. (2009), *Understanding Globalization: The Social Consequences of Political, Economic and Environmental Change*, Rowman & Littlefield, New York.
  24. Sögner, L. and Stiassny, A. (2002), An analysis on the structural stability of Okun's law - a cross-country study, *Applied Economics*, vol. 14, pp. 1775-1787, DOI 10.1080/00036840210124180.
  25. Turturean, C. I. (2007), Okun's Law for Romania during 1992 – 2004, *MPRA Paper*, no. 10638, Available at [https://mpra.ub.uni-muenchen.de/10638/1/MPRA\\_paper\\_10638.pdf](https://mpra.ub.uni-muenchen.de/10638/1/MPRA_paper_10638.pdf), accessed on 25.03.2017.
  26. Westmore, B. (2014), International migration. The relationship with economic and policy factors in the home and destination country, *OECD Journal: Economic Studies*, pp. 101 – 122, DOI 10.1787/5jz123h8nd7l-en.

---

# Consulting provided by the internal public audit function

---

Vasile Cosmin NICULA,  
West University Timișoara,  
E-mail: vasilecosminnicula@gmail.com

## Abstract

*This paper tackles an important issue related to internal public audit, namely specific consulting. Thus, we conceptually approach the three types of consulting engagements, focussing on a comparison between the assurance and the consulting engagements. Then, after an analysis of good practices in planning and unfolding consulting engagements, there is a conclusion section and we close the article with proposals for the enhancement of consulting afforded by internal public audit.*

**Keywords:** audit engagements, typology, IIA Standards, responsibility of internal auditor, internal public auditing methodology, good practices.

**JEL Classification:** M21, M40.

**To cite this article:**

Nicula, V.C. (2017), Consulting provided by the internal public audit function, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 677-685, DOI: 10.20869/AUDITF/2017/148/677

**To link to this article:**

<http://dx.doi.org/10.20869/AUDITF/2017/148/677>

Received: 20.06.2017

Revised: 27.07.2017

Accepted: 28.07.2017

## Introduction

Internal public auditors unfold two types of engagements, respectively assurance engagements and consulting engagements (Law no. 672/2002 on internal public auditing), both types of engagements being included in the internal public auditing annual plans of public entities (MFP, 2016, Report on internal public auditing activity for 2015). However, the UCAAPI Report shows the overwhelming weight of *assurance* in the framework of audit engagements unfolded in 2015, so that this type of engagement stands for 82.19% of the overall audit engagements conducted by public entities. The use, in a law proportion, of consulting engagements in the internal audit activity may be accounted for by the failure to clearly differentiate between the two concepts and by the way it is used in practice.

In this respect, this article aims at highlighting the characteristics of consulting engagements, the differences from the engagements of assurance, as well as at identifying proposals to enhance planning and performance of consulting engagements.

## 1. Research methodology

The research methodology is based on the analysis of the national normative framework, of internal audit international standards, as well as on the specialist literature (Pickett, 2006; Funkhouser, 2008; Funkhouser, 2008; Koning, 2007; Sobel, 2009; Reding, 2013; Galloway, 2010; Sawyer, 2005; Dascalu et al., 2009, 2006) dealing with similar subject matters, also focussing on the wider European, managerial etc. context (Bostan, 2003, 2010; Boulescu et al., 2010; Burciu, 2008; Lazar & Bunda, 2012).

## 2. The consulting engagement concept

The fundamental normative act in the field (Law no. 672/2002 on public audit) defines consulting engagements as being the activities "... meant to add value and enhance governance processes at the level of public entities, without internal auditor taking over managerial responsibilities". Authors such as Dascălu & Nicolae (2006), in accordance with Arens & Laebbecke (2003), consider that, besides the assurance, the consulting activity also represents a fundamental element of internal audit.

According to International Standards for the Professional Practice of Internal Audit, issued by the Internal Auditors Institute of the USA ([www.theiia.org](http://www.theiia.org)), consulting is advisory in nature and involves, as a general rule, an express requirement of the beneficiary of this type of engagement. The approved general norms on the conduct of internal public auditing (Government Decision no. 1086/2013) define three types of consulting engagements, respectively:

- a) **Counselling**, which is aimed at identifying objectives hindering normal unfold of activities, establishing causes and proposing solutions to rule them out;
- b) **Facilitating understanding**, which is meant to acquire a deep knowledge of a system operation or of a normative provision to support staff in charge of implementing them;
- c) **Professional training and further training**, aimed at providing theoretical and practical knowledge relating to financial management, risk management and managerial internal control through training classes organisation.

Furthermore, relating to the unfold of the consulting engagements, the above mentioned Norms (Government Decision no. 1086/2013) establish three possibilities, as follows:

- a) **Formal consulting engagements**, which are similar, in point of procedure and methodology, to the engagements of assurance – they are included in the annual audit plan and conducted in compliance with the general charter for consulting engagements. In this respect, an example could be an engagement the theme of which is the identification of solutions to delays in the award of public procurement contracts at the level of a public entity;
- b) **Informal consulting engagement**, which do not necessarily involve a written formalisation and which are conducted by participating within various standing committees or to definite duration projects, to meetings, engagements, current exchanges of information. For example, internal audit function establishes a contact point so as to answer the questions relating to the implementation of managerial internal control tools;
- c) **Consulting engagements for exceptional situations**, which represent a specific audit engagement, in the sense that they involve activities which may be the object of internal audit through the participation, at the level of teams established to

resume activities following a force majeure situation or an exceptional event. In such a case, it could involve participation of the auditor in a team established at the level of the entity to recover accounting files lost following a cybernetic attack.

A series of authors (Dascălu & Nicolae, 2006) put forward a classification of consulting engagements in relation to their characteristics, as per the following table:

Table no. 1. Classification of consulting engagements in relation to their characteristics	
Counselling type	Characteristics
Formal	Planned engagement the objectives, aim and results of which are established in writing
Informal	The consulting engagement is conducted in the framework of the usual activities
Special	The consulting engagement is conducted in relation to key project, planned as unique, singular ones
Urgent	The consulting engagement conducted is not planned and it emerges following a crisis or an unexpected event

In point of consulting engagements organisation and unfold, as well as in point of form, the above-mentioned general Norms provide that they are proposed by the chief audit executive and are approved by the entity management. Furthermore, it is provided that it is mandatory to define the organisation and unfold modalities in the internal auditing Charter.

### 3. A brief comparison between assurance engagements and consulting engagements

According to the International Standards for the Professional Practice of Internal Auditing (the International Internal Audit Standards of the U.S.A., www.theiia.org) assurance engagements "involves the objective assessment of evidence by the internal auditor, so as to issue an independent opinion or conclusion concerning an entity, an operation, a function, a process, a system or another aspect." Consequently, assurance engagements do not involve a specific request from the audited structure, they involve independence and objectivity of the auditor, as well as the assessment/verification of an aspect characteristic to the auditee (for example, verification of the reliable recording of the patrimony being administered by the entity) following which a conclusion or opinion is issued.

As to consulting engagements, the International Internal Audit Standards provide that "...they are advisory in nature and they are generally performed at the specific request of an engagement client". Thus, in the instance of consulting, it is necessary that a need or a request of the engagement beneficiary exists, the independence

and objectivity not being as important as in the instance of the assurance, since consulting engagements do not involve an assessment and do not necessarily suppose the issue of an opinion or conclusions.

The above-mentioned Standards provide, in point of type and scope of engagements, that in the instance of the assurance, they fall under the **responsibility of the internal auditor**, who needs to display independence and objectivity. As different from assurance, in consulting the type and scope of the engagement are unlimited, and shall be established **jointly with the beneficiary of the engagement**. In point of number of participants, respectively *the process owner, the internal auditor and the beneficiary of the engagement*.

Thus, in the instance of consulting, there exists a direct relationship between the internal auditor and the engagement beneficiary, who also has the capacity as an auditee (beneficiary of the consulting), while in assurance, the auditee differs from the beneficiary of the engagement. Furthermore, the existence in the case of consulting of only two participants involves the possibility that the endorsement process of such an engagement does not involve the entity management, since a time frame is only allocated to this destination. This possibility is not provided in the *General Norms for the exercise of internal public auditing*, which provides that any engagement, including consulting ones, need to be approved by the manager of the public entity, a reason which may trigger reticence of line management of public entities to request consulting on sensitive issues.

In point of engagement aim, in the instance of assurance it consists in providing an independent assessment, while in consulting, the aim is provision of counsel, advice, facilitation, and training (Reding,

2013). Though in consulting, independence and objectivity are not as important as in an assurance engagement (Lawrence B. Sawyer, Sawyer's Internal Auditing, The Institute of Internal Auditors, 2005), special attention shall be paid to the time frame allotted to consulting engagements, since an excessive number of consultants may show a possible impairment of internal audit independence relating to its capacity to unfold assurance engagements. That is why we consider that consulting engagements need to be limited to a threshold set as a percent from the time frame allotted to internal audit engagements.

As to the communication of the engagement results (Reding, 2013) in the instance of assurance, given that it involves the beneficiary of the engagement which differs from the audited structure, communication needs to include these parties, while the communication form is standard and, mandatorily in writing. On consulting, the communication form is not standard and there exist several forms in relation to scope and type of engagement, the notification of the results is not mandatorily made in writing, and the result notification only involves the engagement beneficiary.

The table below comparatively shows the assurance and consulting engagements according to the differentiation criteria.

Criteria	Assurance	Consulting
Aim	Established by the auditor	Established by the consulting beneficiary
Objectives	Established by the chief audit executive	Established by the consulting beneficiary in agreement with the chief audit executive
Nature of activity	Independence and objectivity	Independence and objectivity are not relevant
Results communication	To the auditee and to the person having approved the engagement	Only to the party requesting the engagement
Communication form	Standard, in writing	Not standard, it can also be made orally
No. of participants	3 (the engagement beneficiary, the auditor, the auditee)	2 (the auditor, the person requesting the engagement)
Follow-up	Mandatory	Only upon request of the beneficiary

Source: Dascălu and Nicolae, 2006

#### **4. Analysis of good practices concerning planning and unfolding of consulting engagements**

The general methodology for formal counselling engagement unfold is provided under item 3.4. of the General Norms on the internal public auditing activity, approved by Government Decision no. 1086/2013, and it is structured according to stages, procedures and documents. Thus, a formalized consulting engagement involves covering four big stages, 14 procedures and 17 documents, according to the **Table no. 3**.

As it can be seen, in point of stages, the consulting methodology is similar to the assurance one, they differ in that on consulting there is no *risk analysis*, there is no *conciliation* and no *issues identification and analysis files*

are drafted. The fact that the consultation methodology is similar to the assurance one may lead beneficiaries to confuse assurance and consulting.

Furthermore, audit teams conducting formalized consulting engagements need to allot a longer period for the engagement, which would allow them to cover all stages and establish the documents provided, and dedicate less time to the analysis-proper of the consultation theme and to the identification of possible solutions to solve the issues raised by the consulting services beneficiary.

It can be noticed that the consulting methodology involves the performance of tests and establishing findings (procedure P-08), materialised in tests, checking lists, work files, interviews, surveys. All these instruments are specific to assurance audit engagements, especially the regularity ones, which involve comparison with a standard or norm which has to be complied with. As different from

compliance, consulting involves aspects varying in form and substance, which do not necessarily aim at a lack of compliance, but sooner at issues, difficulties of the

respective manager and which expect, from the part of the audit team, possible and feasible solutions to overcome those.

**Table no. 3. Stages of a formalized consulting engagements (according to the General Norms on the internal public auditing activity conduct, approved by Government Decision no. 1086/2013)**

Stage of internal audit engagement	Audit procedure			Name of the document to be established
	Procedure name	Sub-procedure name	Procedure code	
Engagement preparation	Launching the initial audit	Work order drafting – delegation order	P-01	Delegation order
		Drafting the auditor's declaration of independence	P-02	Declaration of independence
		Drafting the counselling engagement launching notification	P-03	the counselling engagement launching notification
	Kick-off meeting		P-04	Kick-off meeting Minute
	Data collection and processing	Establishing/Updating the permanent file	P-05	Acknowledgement list (CLC)
		Processing and documenting information	P-06	List of objectives, activities/actions
	Elaborarea programului misiunii de consiliere		P-07	Consulting engagements program
Intervention on spot	Colectarea and analiza probelor de audit		P-08	Tests
	Efectuarea testărilor and formularea constatărilor			Checking list – CLV Working files Interviews Survey
	Reviewing documents and establishing the audit file		P-09	Work documents centralizing note
	Closing meeting		P-10	Closing meeting minute
Reporting consulting engagements results	Drafting the consulting report	Internal public audit report	P-11	Internal public audit report on consulting activity
		Disseminating the consulting report	P-12	(Sending address)
Follow-up	Follow-up		P-14	Implementation follow-up file

In the opinion of Reding (2013), there should not be a standard methodology for the conduct of consulting engagements, since these differ in point of scope and typology from one engagement to the other. That is the reason why the above-mentioned author considers that methodology needs to be minimal and flexible in order to adapt to the consulting needs expressed by the entity

management. In this respect, Reding (2013) considers that three stages are necessary to unfold a consulting engagement, respectively *Engagement preparation*, *Engagement unfold* and *Results dissemination*. It can be noticed that, as different from the methodology detailed in the *General Norms on the conduct of internal public auditing approved by Government Decision no.*

1086/2013 for the formalized consulting engagements, Kurt F. Reding does not include the follow-up stage, which is not mandatory in the instance of consulting.

As mentioned in the comparison between the consulting engagements and the assurance ones, consulting is conducted, as a general rule, upon request and is focussed on a need of the beneficiary. Consequently, the use of a formalized consulting engagement in the instance of an urgent consulting request, in the short term, would generate deadline issues to the audit team, since methodology imposes a minimum set of procedures and documents which need to be observed. Consequently, the author's opinion is that the methodology for the conduct of formalized consulting engagements needs to be simplified, so that it may be adapted to the beneficiary's consulting needs.

In point of competence, according to the Internal audit international Standards, the chief audit executive is kept to refuse consulting engagements if the internal auditors do not have the know-how, capacity or other competences required to integrally fulfil the engagement or a part of such.

Considering that audit resources are limited, and so is the obligation of the internal audit compartment to unfold planned missions of assurance, there results that all proposed consulting engagements may not always be conducted. Thus, it is considered (Reding 2013) that a selection needs to be conducted of consulting engagements to be conducted, based on an assessment of the risk size associated to consulting or on the opportunity to unfold this type of engagement. In this respect, the same author (Reding, 2013) provides the following methods to identify consulting engagements:

- Engagements are proposed in the framework of the annual planning process, by identifying the areas with a high risk score;
- Specific consultation themes, requested by management to approach issues or doubts in the accountability domain;
- Modifications emerging in the entity's internal or external environment, which call for the internal audit compartment attention.

Referring to the assessment of potential consulting engagements risk assessment, Reding (2013) states that risk analysis needs to be similar to the assurance engagements one, based on several risk factors. To assess risk factors, an assessment scale shall be

defined and weights are established, and it is recommended to also consider the importance the management places on the assessed consulting engagements unfold.

Relating to consulting engagements planning, Standard 2010.C1 (International Standards for the Professional Practice of Internal Auditing, [www.theiia.org](http://www.theiia.org)) provide that, in order to include a consulting engagement in the internal audit plan, the chief audit executive needs to consider the possibility that they enhance risk management, add value and improve the organization's activities.

Mention shall be made that assurance internal audit engagements may not be denied by the internal audit compartment on account that they do not have the required competences, and in case a certain competence is missing, the latter needs to be supplemented by an expert. As different from assurance, consulting engagements may be refused, that is why consulting needs to be justified from the point of view of the utility for the organization in order to be included in the annual internal audit plan.

As a result, any consulting request needs to be analysed by the internal audit compartment, at least from the point of view of the following criteria (Dascălu and Nicolae, 2006):

- The internal audit compartment has the required competences to fulfil the consulting engagements (or else, the engagement request needs to be denied);
- The value added/the benefits obtained following consulting engagements performance (whether the engagement is justified);
- The weaknesses of the entity, respectively the domains in which entity employees need consulting to improve their activities;
- It should be compatible with the internal auditors' tasks as provided in the internal audit Charter;
- It shall be complementary to the assurance engagements unfold in the organization;
- The advice proposed should not impact the objectivity or independence of internal auditors.

Considering that consulting engagements are related to the beneficiary's needs, there exists the possibility (Reding, 2013) that certain consulting themes are not known as of the moment the internal audit annual plan is established, a reason why the internal audit

compartment needs to allot a time frame for the consultations which may be requested during the year. In this sense, certain authors (Dascălu and Nicolae, 2006) consider that, upon drafting the internal audit annual plan, each internal audit structure can plan one or two consulting engagements, and in case the management has additional requests, the objectives of the new engagements may be included in the already planned engagements.

Also in point of planning, standards (Standard 2201.C1 - International Standards for the Professional Practice of Internal Auditing) provide the obligation of internal auditors to make an agreement with the consulting engagement beneficiaries relating to the objectives, scope, responsibilities and other expectations of the latter, and for significant consulting, the agreement shall be documented.

Reding (2013) mentions that, initially, internal auditors need to discuss with the consulting beneficiary the audit services expected level and the objectives of the engagement. Subsequently, the auditors appointed to unfold the engagement need to agree with the beneficiary all details relating to the requested consulting engagement. Thus, the success of a consulting engagement depends on the way in which the internal audit team manages to identify and answer the consulting beneficiary's expectations. That is why, on drafting the internal audit annual plan, the name or type of the consulting engagements are not important, since it would be difficult to foretell the needs of the consulting beneficiaries resulting from the unfold of the activities they are in charge of, which involves the obligation to allot, in the internal audit plan, a minimum time frame for consulting, for example, 5% of the overall time allotted to audit engagements. In the instance this time frame is not used up, it may be re-distributed towards assurance engagements or towards ad-hoc engagements.

A general restriction is imposed on internal auditors within the framework of assurance engagements, respectively that to avoid substituting themselves to the entity management, in the sense of making decisions in the place of the management.

This issue is highlighted in the International Standards for the Professional Practice of Internal Auditing (IIA, Standard 2020.C3) which stipulates that internal auditors, when supporting the entity management in improving risk management, "... shall avoid taking over

any managerial responsibility which involves, in fact, risk management."

Considering that within a consulting engagement, both the scope and the objective may be modified in relation to the information received from the beneficiary, Kurt F. Reding considers that it is not mandatory to establish a work program for the consulting engagements, as in the instance of assurance missions. On the other hand, the International Standards for the Professional Practice of Internal Auditing provide the obligation to have a work program for each internal audit engagement, that is including for consulting. Nevertheless, in the instance of consulting engagements, Standards provide that they can vary in point of form and content (IIA, Standard 2240.C1), according to the type of engagement.

The notification of consulting engagements results depends of their specific character, so that the consultation report form cannot be a standard one. However, the detail level in the report differs in relation to the engagement beneficiary's requirements. International Standards too (IIA; Standard 2410.C1) provide a great flexibility in the notification of the consulting results, highlighting that they differ in point of form and content, in point of engagement type and beneficiary requirements. The dissemination of the consulting results, in keeping with Standard 2440.C1 (IIA), needs to be done only by the beneficiaries of this engagement, while the obligation to notify the entity management is not provided, as in the instance of the assurance. Nevertheless, Standard 2440.C2 (IIA) provides that in case during consulting engagements significant malfunctions are identified, they shall be notified to the entity management.

Based on the information collected within the framework of consulting engagements and related to the beneficiary's requirements, the audit team will draft recommendations. A distinction needs to be made between the recommendations drafted within the framework of an assurance engagement, which are mandatory for the auditee if they were endorsed by the entity management and the ones drafted following a consulting engagements, which are under the form of *proposed solutions*. Thus, they need not be mandatorily implemented by the beneficiary and need not to be endorsed by the entity manager. Recommendations within consulting engagements need to be understood by the beneficiary, be useful and feasible. The fact that the implementation of the

recommendations within consultation, as well as their monitoring are optional, results from the Internal Audit International Standards (IIA, Standard 2500.C1), which provide that the recommendations drafted during consulting engagements need only be monitored if it is agreed with the engagement beneficiary.

Mention shall be made that consulting engagements are strongly preventive in character, if the management uses this type of engagement whenever they have issues in the conduct of activities, as well as indications relating to the possibility to make decisions which trigger significant failures to comply or serious irregularities.

## Conclusions

The consulting methodology, as provided in the *General Norms on the conduct of the internal public auditing* are similar to a great extent to the assurance one, so that it is difficult to make a differentiation between the assurance and the consulting concept based on the methodology. This fact generated confusions between assurance and consulting for the potential beneficiaries of the consulting engagements and triggered a failure to use it at its overall potential being a strongly preventive engagement. The existence of a formalized methodology generates the focussing the consulting engagements on the covering of the forms and drafting of documents established in the detriment of the analysis proper of the consulting theme and of the identification of the solutions to settle the issues raised by the beneficiary. That is why, the methodology on the conduct of formalized consulting engagements needs to be simplified so that the audit team may adapt it to the consultation requirements of the beneficiary.

The good practices in the field of internal audit show the need to conduct a risk analysis and a selection of the consultation themes, using a risk factors system, similar to the one used for the selection of audit themes within the framework of assurance engagements. Thought the current methodology for formalized consulting engagements conduct provides that follow-up is mandatory, in relation to the requirements of the engagement beneficiary. The current legislation in the field of internal public audit

provides the existence of three participants in the framework of consulting, as in the instance of assurance engagements, respectively –*the entity manager* – who endorses the counselling engagement, *the audit team* and *the consulting beneficiary*, when the good practices in the fiels only indicate two participants, respectively *the audit team* and *the consultation beneficiary*.

Considering the above mentioned issues, in order to improve the consultation provided by internal public auditors, here are our proposals:

- Modification of the national legislation in the field of internal public auditing, so that a clear distinction is made between consulting and assurance, in compliance with the good practices in the field;
- Making the methodology for formalized consulting engagements simpler and more flexible, so that it may be adapted to the beneficiary's consulting requirements and not be a potential hindrance in point of deadlines;
- Modification of the following aspects in Annex no. 1 to the above-mentioned Government Decision relating to consulting:
  - ✓ Setting minimal criteria for the selection, by the chief audit executive of the consulting engagements proposed by the entity management;
  - ✓ Making it possible for line management or top management to request, directly, from the internal audit compartment, consulting engagements, without the previous approval of the public entity manager, within the ceiling of a time frame allotted for consulting, so as to rule out the possible reticence of line management to request sensitive issues consulting which need to be approved by entity management;
  - ✓ Providing a global time frame for consulting in the internal audit annual plan, calculated as a percent of the overall time frame for audit of the internal audit compartment (for example, 3%-5%);
  - ✓ Ruling out the mandatory character of implementing and following-up the recommendations made in the framework of consulting engagements.

## REFERENCES

1. Arens, A.A. and Laebbecke, J.K. (2003), *Audit. O abordare integrată*, Editura ARC, Chişinău.
2. Bostan, I. (2010), *Proceduri privind auditul public financiar and al performanţei*, Editura TipoMoldova, Iaşi.
3. Bostan, I. and Radu, P. (2003), *Controlul financiar and auditul intern la instituţiile publice*, Editura Sedcom Libris, Iaşi.
4. Boulescu, M., Dascălu, E.D. and Ispir, O. (2009), *Uniunea Europeană: instituţii, buget, audit*, Editura Didactică şi Pedagogică, Bucureşti.
5. Burciu, A. (2008), *Introducere în management*, Editura Economică, Bucureşti.
6. Dascălu, E.D., Ţurlea, E. and Nicolae F. (2009), *Internal Audit Quality A Key Element For The Management Decision, Osterreichish-Rumanischer Akademischer Verein Papers*, available at <https://econpapers.repec.org/paper/rissphedp/default5.htm>, accessed on 15.06.2017.
7. Dascălu, E.D. and Nicolae, F. (2006), *Auditul intern în instituţiile publice*, Editura Economică, Bucureşti.
8. De Koning, R. (2007), *Controlul financiar public intern*, available at [www.pifc.eu](http://www.pifc.eu), accessed on 15.06.2017.
9. Funkhouser, M. (2008), *Honest, Competent Government: The promise of performance auditing*, The Institute of Internal Auditors.
10. Galloway, D. (2010), *Internal Audit: A Guide for the New Auditor*, Ediţia a treia, The Institute of Internal Auditors Research Foundation.
11. Lazăr, C.M. and Bunda, R.N. (2012), Knowledge-based economy, an appropriate response to organizational change pressures, with a view to sustainable development, *Amfiteatru Economic*, vol. 14, nr. 32, pp. 302-315.
12. Ministerul Finanţelor Publice (2002), *Legea nr. 672/2002 privind auditul public intern (cu modificările and completările ulterioare)*, available at [http://www.dreptonline.ro/legislatie/legea\\_auditului\\_intern.php](http://www.dreptonline.ro/legislatie/legea_auditului_intern.php), accessed on 15.06.2017.
13. Ministerul Finanţelor Publice (2013), *Hotărârea Guvernului nr. 1086/2013 pentru aprobarea Normelor generale privind exercitarea activităţii de audit public intern*, available at <https://codfiscal.net/40052/hg-10862013-normelegenerale-privind-exercitarea-activitatii-de-audit-public-intern>, accessed on 15.06.2017.
14. Ministerul Finanţelor Publice (2016), *Raportul privind activitatea de audit intern din sectorul public pentru anul 2015*, available at [www.mfinanţe.ro](http://www.mfinanţe.ro), accessed on 15.06.2017.
15. Reding, K.F. (2013), *Internal Auditing*, Ediţia a treia, The IIA Research Foundation.
16. Sawyer, L.B. (2005), *Sawyer's Internal Auditing*, The Institute of Internal Auditors.
17. Sobel, P.J. (2009), *Auditor's Risk Management Guide (Integrating Auditing and ERM)*, Editura CCH.
18. Spencer Pickett, K.H. (2012), *The Internal Auditing Handbook*, Publisher John Wiley and Sons Inc, New York, DOI: 10.1002/9781119201717.
19. The Institute of Internal Auditors (2017), *International Standards for the Professional Practice of Internal Auditing*, available at <https://na.theiia.org/standards-guidance/Public%20Documents/IPPF%202013%200English.pdf>, accessed on 15.06.2017.

---

# Sensitivity analysis for the determinants of investment appraisal

---

**Muhammad Asif KHAN,**

School of Economics, Huazhong University  
of Science and Technology, China,  
University of Kotli, Azad Kashmir, Pakistan,  
E-mail: khanasif82@hotmail.com,  
khanasif82@hust.edu.cn

**Shujahat Haider HASHMI,**

School of Economics, Huazhong University  
of Science and Technology, China

**Munawar HUSSAIN,**

Riphah International University Islamabad, Pakistan

**Raja Muhammad Ahsan ILYAS,**

Mohi-ud Din Islamic University AJK, Pakistan

## Abstract

*This study empirically conducts the sensitivity analysis for the determinants of investment appraisal of Pakistani non-financial firms listed at Pakistan Stock Exchange (PSX) across sectors. We employed OLS regression along with common effect and fixed effect model on panel data pertaining to 60 non-listed firms at Pakistan Stock Exchange (PSX) over the period from 2003 to 2015. Empirical results document that leverage, growth, dynamism and inflation have strong positive associations with investment appraisal, however, munificence and GDP influence the process conversely. The study provides useful framework for potential investors to evaluate all these vital factors besides conventional mechanism, prior to making investment decision. Policy makers for non-financial sectors may get benefit by apply this diagnostic model to evaluate prospective investment projects for the most optimistic outcome. Corporate finance literature reveals that there is no formal evidence of determinants of capital expenditure at different levels of economic recessions; therefore, the study is pioneer effort to identify the significant determinants of investment appraisal of Pakistani listed non-financial firms across sectors, eventually, a useful contribution in existing literature.*

**Keywords:** Capital expenditure, investment appraisal, sensitivity analysis, munificence, HHI

**JEL Classification:** M41, G31, G12

### To cite this article:

Khan, M.A., Hashmi, S.H., Hussain, M. and Ilyas, R.M.A. (2017), Sensitivity analysis for the determinants of investment appraisal, *Audit Financiar*, vol. XV, no. 4(148)/2017, pp. 686-700, DOI: 10.20869/AUDITF/2017/148/686

### To link to this article:

<http://dx.doi.org/10.20869/AUDITF/2017/148/686>

Received: 27.04.2017

Revised: 04.06.2017

Accepted: 10.06.2017

## Introduction

Capital expenditure refers to the planning process used to identify, evaluate and select the most appropriate long-term project in compliance with budget constraints; however, every firm has specific strategies to achieve the desired objectives with optimized utilization of available resources, considering the value creation metaphor for shareholders (Penman, 2010). Capital expenditure decision has long-term range impact on the strategic performance of the organization and is a key to the success or the failure of the organization. The purpose of the investment decisions includes allocation of the firm's capital funds most effectively to ensure the best possible return, because of the sensitive nature of such decisions, as well as future prediction.

Similarly, Mc Connell and Muscarelle (1985) document that capital expenditures affect business performance. At the macro level, capital spending affect aggregate demand and GDP, economic development, and business courses (Dornbusch and Fisher, 1987).

Many studies examine the factors that influence the level of capital expenditures, some researchers focusing on country-level factors and institutional differences across developed and emerging economies (Wnuk-Pel, 2014). Sensitivity analysis method is often applied to help making investment decisions regarding capital budgeting under uncertainty, it is the procedure that examines how changes in certain input values (revenue, costs and the value of investments, etc.), which occur due to inadequate forecasting or for another reason, influence certain criteria and budget total capital values.

Furthermore, according to Christy (1996), there is not any significant relationship between earning per share and share trends, especially capital expenditure for the investment decisions. by Christy (1966) Contrary, size is presumed to influence the investment decisions of the firms (Klammer, 1973; Hall and Weiss, 1967); however, the literature assumes that investment decisions have a major impact on the future well-being of the firm (Weston and Brigham, 1979).

As the normative goal of capital expenditure is to maximize the net economic gain to owners of the firm, it might seem preferable to isolate the influence of corporate capital expenditure practices on share prices (Fama, 1969; Mandelker, 1994; Alexander and Bucholz, 1978; Kudla, 1980). Further, Sundem (1980) observed that capital expenditure has a substantial short-run

negative effect on the earnings of firms. However, Lu-Andrews and Yu-Thompson (2015) emphasize upon the role of CEO in strengthening the liquidation value and tangibility of assets when he has more debt-like compensations. However, Holmes and Maghrebi (2015) argue that the results could be different due to non-linear behavior of Tobin's  $q$  with investment expenditure.

Consistently, some other researchers focused on country-level factors and institutional differences across developed and emerging economies (Pel, 2015). Sensitivity analysis method is often applied to help making investment decisions regarding capital budgeting under uncertainty, it is the procedure that examines how changes in certain input values (revenue, costs and the value of investments, etc.), which occur due to inadequate forecasting or for another reason, influence certain criteria and budget total capital values.

The study warrants the need to examine how different economic periods differently influence investment decisions. The study tends to investigate the influences of different factors in pre-and post-financial crises and inclines to investigate the significance of different sectors in Pakistan, focusing on sector level determinants for capital expenditure to the knowledge gap identified in corporate finance literature, as there is no formal evidence of capital expenditure factors at three different levels in economic recessions. The objectives of study are: 1) to identify the significant determinants of investment appraisal of Pakistani listed firms across sectors in different economic recessions and 2) to categorize whether and how investment decisions are differing in different economic recessions.

## 1. Theoretical Background

From Barclay's and Smith's (2005) theory of hierarchy, it means that there are relatively few companies that know investment opportunities, and free cash flow has low debt ratios because that money will be used to repay debt. Therefore, it is suggested that chip companies with low operational cash have high debt ratios because of their reluctance to raise new funds. It should be emphasized that when the symmetry of information is not clear, then the debt company will become bankrupt if additional funds are needed, and finally issue shares to meet the remaining capital requirements. It is clear at this stage that companies prefer domestic external financing sources expensive, not only for capital cost, but to avoid dilution of the current shareholders' control.

Therefore, the import theory of hierarchy is that companies that achieve profitability and can generate profits are expected to use less capital than those that do not generate high profits. In support of this Symeou (2008) stated that the reason companies can choose to maintain spare debt power is to maintain your credit rating because it can take several years to recover from deterioration. Maintaining local debt financing improves the company's ability to withstand a period of poor performance and allows you to run a recovery plan.

The Signals theory according to Gatsi and Akoto (2010), is a theory based on the assumption that the managers involved are superior to the information activities of the company, which managers can increase the influence element. However, in contrast to the time of the market where stock offers are trying to increase the "cheap" model the capital implies that financing decisions are primarily intended to transfer trust managers in the prospects of the company to overseas investors (Barclay and Smith, 2005). Most often, this is done to raise the value of stocks when managers think they are undervalued. Debt companies require to make a fixed set of cash payments to debt holders during a period of debt. Companies may have to go bankrupt if they fail to meet their debt obligations.

Many studies examine the factors that influence the level of capital expenditures, some researchers focused on country-level factors and institutional differences across developed and emerging economies (Pel, 2015). Sensitivity analysis method is often applied to help making investment decisions regarding capital budgeting under uncertainty, it is the procedure that examines how changes in certain input values (revenue, costs and the value of investments, etc.), which occur due to inadequate forecasting or for another reason, influence certain criteria and budget total capital values

### 1.1. Determinants of Capital Expenditure at Firm level

According to Griner and Gordon (1995), sales is normally used to control for firm size and measured by total revenues generated by company. Haller and Murphy (2012) also find that firm size is one main determinant of Investment appraisal decision, approaching the size of the company by income, the consumer price index published in the Swedish Statistics. In estimating equation, we imagine the associated volume to use the recommended investment appraisal (Brounen and Eichholtz, 2003; Hermes, 2007).

Profitability is measured by net profit, as well as some of the profitability ratios (return on equity, return on assets and the ratio of profit margin). It should be noted that the most profitable companies are using the net present value and in terms of other methods, they do not largely or adversely affect this variable. It is said that the investment projects are mutually exclusive if only one can be acceptable. The Firms having greater sales abroad use less the coefficient of profitability. Furthermore, overseas sales have no positive impact relation with callback technique. Therefore, this outcome does not support the conclusions Holmen and Pramborg (2009).

The firms having leverage give more concentration to the period to improve their startup outlay, as the high degree of financial risk is involved. We that the greater leverage associated with the use of the reward method is not recommended, as it looks positively correlated with economic ambiguity (Binder and Chabot 1996; Shawl and Sundem, 1980). An alternative interpretation is expected to pay a high leverage and it is used often by companies, i.e. by these firms having financial problems, and thus, they may feel they have to uncover investments that quickly recover the initial investment (Daher and Saout, 2015). On the other hand, Block (2007) inferred that financial organizations can exercise indirect pressure on the analytical methods used by companies to make investment decisions.

Growth opportunities are given by the price-to-earnings (P / E) ratio because it is believed that a high P / E means that the prices of capital market is rising and expects the company to have a greater growth in the future. According to Brailsford and Yeoh (2004), the growth opportunities are significantly important to explain the market reaction to Investment appraisal. Contrary to our expectations, and the Swedish fastest growing companies employ TIR often, but the rate of return (recommended) a lot less. Gaver, Gaver and Battistel (1992) say that in the identification of joint investment opportunities the companies rely long-term vision to achieve a balance between incentives for management and the interests of shareholders. Commonly, the past studies reveal that capital spending is influenced by policies and plans for compensation on the basis of incentives aimed at harmonizing the interests of managers and shareholders. Wu and Wang (2005) reported on the continuation of a sturdy helpful connection among the implications of the proclamation

and the IOP, but fail to discover the impact of issuers with high IOP.

Matoussi, Karaa and Maghraoui (2004) tested the relationship between Investment appraisal level and liquidity using a Tunisian data in (2001). Elliot (1973) shows that liquidity affects investment appraisal and provide further evidence that liquidity significantly strengthens the investment appraisal. In contrast with Chakroun and Matoussi (2012) they show a positive and significant effect on Investment appraisal. One explanation is that Tunisian investors have no confidence on the disclosed information in annual reports and do not use it to make their decisions.

The company size is approximated by revenue adjusted for inflation using the Swedish Consumer Price Index published by Statistics Sweden. The company size has generally been positively correlated with the use of recommended capital expenditure methods (Graham and Harvey, 2001; Brounen, 2004). The profitability of the company is measured by the amount of net profits as well as some profitability ratios (ROE, ROA, and Profit Margin Ratio). Moreover, foreign sales were not significantly positively related to the use of the pay-back method. The latter result thus fails to support the findings in Halmen and Pramborg (2009). Our research provides evidence that high leverage companies tend to use more the PB and NPV but they have insignificant or negative relationships with other techniques. We expect high leverage to be related to the use of the non-recommended pay-back method, which has been found to be positively associated with economic uncertainty (Binder and Chaput, 1996; Schall and Sundem, 1980). Growth opportunities are proxied by the price-earnings (P/E) ratio because high P/E-ratios are thought to mean that the capital market expects the company to have high future growth, and leverage is measured by the debt-to-asset ratio. According to Brailsford and Yeoh (2004), the growth opportunities are significantly important to explain the market reaction to capital expenditure announcements.

## 1.2. Determinants of Capital Expenditure at Country level

Public fixed investment was 12.4 percent of GDP during 1973-74 to 1983-84 compared with 9.7 percent and 9.4 percent during the two adjacent periods as

argued by Arby (2001). He suggests that some positive structural changes occurred during this period. Gross domestic product (GDP) is the main indicator to measure the health of the economy in a country. The author defines GDP for a country of the market value of all goods and services produced in the final country during a certain period. Inflation is the rate at which the general level of prices of goods and services continues to increase, and, later, the decline in purchasing power. This can be defined as a change in the purchasing power of the currency of the pressure exerted on the producers of the raw material costs. This can be passed on to consumers, or can be absorbed by profits, or offset by increased productivity. Capital budgeting is the process used to evaluate the project. One of its objectives is to provide the expenses related to assets and future cash flows accurately, after considering all the factors that may affect future expenses. However, this is not true. Inflation affects two aspects: cash flow and reduce Rate9 an increase of 10.3 percent, Pakistan (2010).

## 1.3. Determinants of Capital Expenditure at Sector level

More recently, Smith, (2014) reported that firms operating in highly munificent environment with above-target debt, which have more abundant resources, tend to reduce leverage and rapidly adjust towards their target debt.

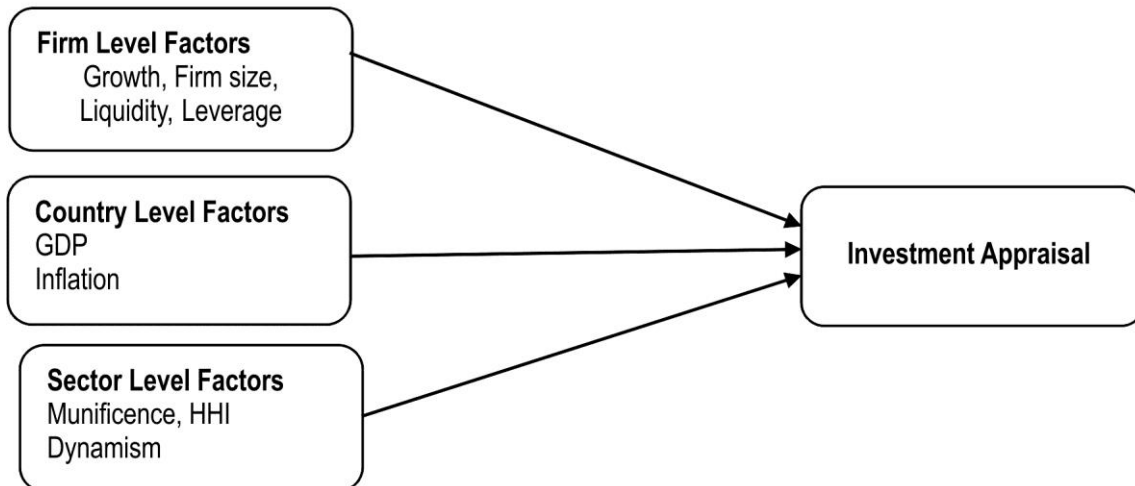
In this regard, Simerly and Li (2000) observed a positive association between leverage and firm's performance which operates under stable environment. In contrast, leverage negatively related with the firm's performance that operates under dynamic environment. According to Kayo and Kimura (2011), firms that operate within a sector or industry tend to have similar properties; hence, they expect to have similar environment.

Based on industry concentration, it can be divided as high and low concentrated industries. According to Moeinaddin, Nayebzadeh and Ghasemi (2013), the most important index of industry concentration is Herfindahl Hirschman Index, which is stronger and common in calculating the concentration level of industries. The level of industry concentration affects the firm leverage differently. The greater the HH Index level, the more concentration and less competitiveness shall occur and vice versa (Setayesh and Kargarfarid,

2011). Therefore, from this point of view to capture the industry concentration impact on leverage, the

Herfindahl-Hirschman Index (HH Index) is used to measure the firm size in relation to sector or industry.

**Figure no. 1. Theoretical Framework**



#### 1.4. Techniques of Capital Expenditure

According to Shinoda (2010), the payback period method is said to be theoretically irrelevant and mistaken because the simple payback period (SPP) method ignores the time value of money and cash flows beyond the cutoff date. One of the major disadvantages of simple payback period is that it ignores the time value of money. Even if we use the discounted payback period (DPP) method, which was modified to eliminate the limitations imposed by ignoring the time value of money, we cannot resolve the difficulty of ignoring cash flows beyond the cutoff date (Shinoda, 2010). When considering the maximization of stockholders' wealth hence and after DCF techniques, the techniques under this category are Net present value NPV, Internal rate of return IRR, Profitability index PI etc.

The researchers Brealey, Myers and Allen (2006) consider the NPV technique the superior one. Accounting rate of return (also known as simple rate of return) is the ratio of estimated accounting profit of a project to the average investment made in the project. ARR is used in investment appraisal. The advantage of ARR is that it is easy to calculate (Blocher,

2008). Internal rate of return (IRR) is the discount rate at which the net present value of an investment becomes zero. IRR is misleading while making choice among mutually exclusive projects (Ross, 2005). Profitability index is an investment appraisal technique calculated by dividing the present value of future cash flows of a project by the initial investment required for the project.

## 2. Research method

The examination of noticeable phenomenon via geometric, numerical or computational techniques in social and natural sciences is relevant to quantitative research. Many researchers (Punch, 1998; Mertens, 2003; Newman, Ridenour, Newman and DeMarco, 2003) have suggested that to get better understanding of a research problem, this should be examined through numerical tendency from quantitative data. Furthermore, as this study uses the information for 60 firms over the period of 2003 to 2015 to test the capital budgeting techniques importance panel data estimation technique is suitable for this purpose. The data in work is resulting from Financial Statements Analysis of Pakistan stock Exchange non financial listed firms published by State Bank of Pakistan and Business Recorder. In this study

panel data is used, one faces the question whether the individual effect is taken as common, fixed or random factor. In the light of previous researches Booth *et al.* (2001), this model confines the complete information including omitted variables effect. The study uses the OLS regression, in line with the Shah and Khan study (2007) on the rational use of the combined ordinary squares model and ignores the time-series and cross-section of other enterprises homogeneously affected in

nature. Fixed effects model is used when the stable characteristics of the companies in the sample should be monitored for a certain period of time required. These methods are also used by Builder (2008), and Rashid and Rahman (2009) in their study. However, the variables used in the study are described in **Table no. 1** with corresponding proxy and empirical evidence.

**Table no. 1. Description of Variables**

Variables	Proxies/ Formula	Empirical Evidences
Investment Appraisal	TFA t - TFA t-1	Hamidi 2015
GDP	GDP per capita	Vries (2010) Mahmood and Arby (2012)
INFLATION	Change in CPI	Annalien (2010) Mahmood and Arby (2012)
Growth opportunities	Market to book ratio	Leon and Kester (2008)
Profitability	ROA = Net profit / Total Assets	Hossan and Ali (2012) Samuel and Ranti (2013)
Leverage	Total debt / Total Assets	Binder and Chaput (1996) Schall and Sundem (1980)
Firm Size	Natural log of sales	Mehta (2012) Ali A. Hossan F. (2012) Hamidi (2015)
Liquidity	Current Assets/ Current Liabilities	Handa and Schwartz (1996) Mattoussi et al. (2004)
Munificence	Regress the time against sales of sector over the period of study Taking the ratio of the regression slope coefficient to the mean value of sales	Smith (2014) Naveed, Ramakrishnan, Anuar and Mirzaei (2015)
Dynamism	Standard error of munificent slope divided by the mean value of sale over same period	Naveed et al. (2015)
HHI	By summing the square of percentage of markets share held by the firms within a given sector.	Setayesh and Kargarfard, (2011) Naveed et al. (2015)

## 2.1. Econometric Model

**Equation 2.1** - Provide the association between capital expenditure and its determinants by using OLS regression at three different levels.

$$CE = \beta_0 + \beta_1(PRF)_{it} + \beta_2(FS)_{it} + \beta_3(LEV)_{it} + \beta_4(GO)_{it} + \beta_5(LIQ)_{it} + \beta_6(GDP)_{it} + \beta_7(INF)_{it} + \beta_8(MNF)_{it} + \beta_9(DYN)_{it} + \beta_{10}(HHI)_{it} + \varepsilon_{it} + \mu_i$$

**Equation 2.2** - Provide the association between capital expenditure and its determinants by using fixed affect at three different levels.

$$CE = \beta_0 + \beta_1(PRF)_{it} + \beta_2(FS)_{it} + \beta_3(LEV)_{it} + \beta_4(GO)_{it} + \beta_5(LIQ)_{it} + \beta_6(GDP)_{it} + \beta_7(INF)_{it} + \beta_8(MNF)_{it} + \beta_9(DYN)_{it} + \beta_{10}(HHI)_{it} + \varepsilon_{it} + \mu_i$$

### 3. Results and discussion

Sensitivity analysis is the approved method of calculation to predict changes in the data entry on the results of the model output. Often, this procedure is used for making investment decisions with respect to the capital budget under uncertainty. Standards and the effectiveness of the sensitivity of the analysis of the balance of capital is a procedure for calculating research and management report, etc. changes in individual securities listed on the securities account of individual standards as well as evaluation of investment projects. Further, because it is likely not to be among those values in the future tens of titles and other possible factors. If we consider all the possible consequences, it is necessary to analyze in advance, possible changes in values starting in the state of facts or the results that were obtained by calculating these values, held by the sensitivity analysis procedures.

In other words, it is a procedure that examines how changes in certain input values (revenue, costs and the value of investments etc.), which occurs due to insufficient forethought or for another reason, affect certain criteria and the total capital budget values. The application of this analysis of the possible points of

maximum or minimum, you can take valuable time, however, still allows an investment project that has been justified and accepted for investigation.

The diagnosing testing includes the descriptive statistics and correlation matrix. It includes mean, median and mode. The descriptive summary of textile sector determinants at three different level firm, country and sector level is given below.

The descriptive summary of overall data set is given in Table no. 2. In accordance with the above results the mean value of capital expenditure in overall data set is -0.03%. The minimum value is -11.40 and maximum values 6.79. The median is 0.04 for overall data set. The standard deviation of capital expenditure is 1.90 which shows the low risk of dependent variable capital expenditure. Moreover, the leverage in overall data set shows mean 37.38 that is high variation. The minimum and maximum values also reported as -10.80 and 53.37 for the leverage. The standard deviation of leverage is 24.77% which shows the risk of independent variable. Further standard deviation of return on assets is 8.53 indicating that there is very low risk for the return on assets in overall data set. The mean value is 4.66 which illustrates the variation in return on assets. The maximum value is -11.4 and minimum is 6.97.

**Table no. 2. Description Statistics**

Variable	CA	ROA	LE	LIQ	FS	GO	MNF	DYN	HHI	INF	GDP
Mean	-0.03	4.66	37.38	71.89	20.56	1.12	65.18	20.20	0.01	87.56	4.64
Median	0.04	2.69	2.08	1.88	10.85	1.06	23.18	23.03	4.24	82.53	4.43
Min.	-11.47	-51.62	-10.80	51.56	-0.05	0.01	3.16	11.24	0.02	47.20	0.36
Max.	6.97	12.41	53.37	50.57	12.96	8.55	17.14	60.86	0.01	14.17	8.95
SD	1.90	8.53	24.77	35.31	64.18	0.56	14.59	52.73	0.03	32.11	2.13

Source: Estimation output

Moreover, standard deviation of liquidity is 71.89 indicating that there is also very high risk. The mean value is 35.31 that shows the variation in liquidity. The minimum value is reported -51.56 and maximum 50.67 for liquidity in overall data set of non-financial sectors of Pakistan. Another factor at firm level, firm size, shows mean value in overall data set is 20.56. The standard deviation of firm size is 64.18, which shows the risk of independent variable that is very low in overall data set. The mean value of growth in textile sector is 1.12. The minimum and maximum values also reported as 0.01

and 8.55. The standard deviation of capital expenditure is 0.56 which show the risk of dependent variable. Munificence, Dynamism and HHI, the determinants of capital expenditure, are reported for non-financial sector. In the light of above results mean value of munificence is 65.18 and value of standard deviation is 14.59 these values indicate normally distribution of munificence. Furthermore, mean value of dynamism is 20.20 and standard deviation is 52%, which means dynamism is highly risky. The variation in HHI is 0.01 and its standard

deviation is very low it means there is now risk in case of HHI for overall data set.

To end with GDP and inflation, two determinants of capital expenditure at country level also reported in above table; the mean values of inflation and GDP are 87.5 and 4.64% designating that inflation shows high

variation in textile sector of Pakistan. In contrast the value of GDP shows low variation. The standard deviation of inflation is 32.11 also high but the GDP shows 2.13 it means there is very low risk. Further the results of correlations Matrix to check the issue of multicollinearity are given below.

**Table no. 3. Correlation Matrix Overall**

	CA	ROA	LE	LIQ	FS	GR	MUN	DYN	HHI	INF	GDP
CA	1.000	-0.361	-0.0547	-0.0706	0.0050	0.1490	-0.1263	-0.1254	-0.0216	0.680	0.0836
ROA		1.0000	-0.0176	-0.0352	-0.0442	0.0175	0.0636	0.0768	-0.0286	0.604	-0.0131
LEV			1.0000	-0.0007	-0.0298	0.0898	0.0506	0.0541	-0.0140	-0.1252	0.0817
LIQ				1.0000	0.0685	-0.0603	0.0306	0.0252	-0.0503	-0.2199	0.2127
FS					1.0000	0.0075	-0.0412	-0.0470	0.1110	-0.2169	0.1994
GR						1.0000	-0.0465	-0.0459	0.0125	0.0535	0.482
MUN							1.0000	0.9986	-0.0386	-0.1672	0.1362
DYN								1.0000	-0.0404	-0.1635	0.1335
HHI									1.0000	-0.1125	0.1060
INF										1.0000	0.5532
GDP											1.0000

Source: Estimation output

**Table no. 3** above shows the results for the data set of sugar sector of Pakistani non-financial listed firms, reporting the minimum and maximum values. In accordance with above results, the maximum value of variable is firm size that shows 0.6815 in sugar sector data set. Some figures are reported with negative

correlation and other shows positive correlation within limit. This value is not greater than 0.7 or 7 percent. In this sense, we also say that there is no issue of multicollinearity in this model and no need to run VIF test.

**Table no. 4. Results of Sensitivity Analysis**

Variable	Pre (OLS)	Post (OLS)	Pre (Fixed)	Post (Fixed)
ROA	0.620(-0.003)	0.157(-0.005)	0.620(-0.003)	0.035(-0.015)
LEV	0.002(-0.002)	0.00001(0.001) ***	0.0020(-0.002) ***	0.0001(0.0001) ***
LIQ	0.711(-2.68)	0.537(0.001)	0.7117(-2.684)	0.537(0.001)
FS	0.237(0.001)	0.0467(-0.005)	0.237(0.001)	0.0467(-0.005)
GR	0.003(0.25) ***	0.00001(0.049) ***	0.0037(0.251) ***	0.00001(0.049) ***
MUN	0.0007(-0.05) ***	0.755(-0.004)	0.0007(-0.051) ***	0.755(-0.004)
DYN	0.0071(0.014) ***	0.773(-0.001)	0.0007(0.014) ***	0.773(-0.001)
HHI	0.271(-42.07)	0.261(33.2)	0.2715(-42.07)	0.261(33.2)
INF	0.006(0.41) ***	0.188(-0.004)	0.006(0.41) ***	0.188(-0.004)
GDP	0.020(-0.119) **	0.196(0.067)	0.0200(-0.119) **	0.196(0.067)
R-squared	0.3915	0.874251	0.19915	0.874251
P-value	0.000203	1.7e-150	0.000203	1.7e-150

Source: Estimation output

**Table no. 4** represents the results of sensitivity analysis on pre and post windows created on the overall data set of sugar and textile sector. The results are reported on the basis of OLS and fixed effects model to check the influences of different factors on investment in different economic conditions. This inclusive study makes a sensitivity analysis for the determinants of investment at three different level e.g. firm level, country level and sector level. Sensitivity analysis is the approved method of calculation to predict changes in the data entry on the results of the model output. Often, this procedure is used for making investment decisions with respect to the capital budget under uncertainty. The above table findings are described by using both models, either OLS regression or fixed affects model. In the light of above, results the main findings are quite different in pre-and post-period.

According to above, results of textile and sugar sector overall data set of non-financial listed firms of Pakistan, the return on assets shows negative sign of coefficient and p- value is insignificant in pre-period by applying both models OLS regression and fixed affects model. ROA is insignificant it means no effects on dependent variable of the investment decision. Further, in post period ROA is negatively insignificant. In contrast, by using fixed affects model in post period the results are different; the sign of coefficient is negative and p-value is significant. Growth companies might also be more likely to calculate the profitability index, because they might have more potential new investment. Investment projects are said to be mutually exclusive if only one could be accepted.

Furthermore, sign of coefficient for leverage is negative its p-value is significant in pre-period by applying both models OLS regression and fixed affects. There is negative significant relationship between leverage and investment in pre-financial period. Similarly, to the post period, the sign of coefficient for leverage is positive and p-value is significant.

Another factor is liquidity, which shows negative insignificant relationship with investment because the sign of coefficient is negative and p-value is significant in pre-period by applying both models

OLS regression and fixed affects model. Furthermore, in post period the sign of coefficient for liquidity is positive but it is insignificant; this discussion is supported by Saquido (2003) who concluded that liquidity is insignificantly related to investment; but there remains a significant relationship between investment and revenue growth and fixed capital intensity.

The firm size shows the sign of coefficient positive and p-value insignificant, indicating that there is no relationship between the firm size and investment in pre period by applying both models OLS regression and fixed affects model. In post period by applying both models OLS regression and fixed affects model the result is negative significant. Graham and Harvey found a statistically significant negative relation between size and pay-back in particular in the U.S., while Brounen D. found no statistically significant relation between size and pay-back in any of the four (Germany, France, Netherlands, and UK) countries.

In contrast, growth rates show a positive sign of coefficient and the p-value is significant, indicating that there is a positive significant relationship between growth and investment in pre and post period by applying both models OLS regression and fixed affects model. Contrary to our expectations, Swedish listed companies with higher growth opportunities (which we measured by their P/E ratio) used IRR (not recommended) more often but profitability index (recommended) less often.

Some other determinants at sectors level e.g. Munificence shows negative significant relationship with investment because the sign of coefficient is negative and p-value is significant by applying both models OLS regression and fixed affects model. It means there is positive significant relationship between munificence and investment in pre-period. In contrast the sign of coefficient in post period for munificence is negative but p-value is significant by applying both models. Dynamism shows the sign of coefficient positive and p-value is significant, indicating that there is significant positive relationship between dynamism and investment by applying both models OLS regression and fixed affects model. HHI sign of coefficient is negative and its p-value is insignificant, indicating that there is no relationship between HHI and investment by applying

both models OLS regression and fixed affects model. In post period, the sign of coefficient is positive and p-value is insignificant by using both models. Hirshleifer and Suh's studies (1992) similarly show how compensation contracts are used to induce self-serving managers to take high-value and high-risk projects.

Finally, at country level the reported determinants are inflation and GDP. The sign of coefficient for inflation is positive and p-value is significant which means there is significant affects in pre-period by applying both models OLS regression and fixed affects model. The mechanism by which inflation affects economic growth in the nonlinear environments over the long-term is represented by Investment. The inflation rate below the threshold level has a positive effect but little effect on investment, while the one above the threshold brings a negative and significant impact on the strong investment.

In post period, the result is insignificant and sign is negative by applying both models. Furthermore, the sign of coefficient for GDP is negative and p-value is significant. It indicates that GDP has effects on investment in pre-period by applying both models OLS regression and fixed affects model. However, the sign of coefficient is still positive but the p-value is insignificant in post period by applying both models. Some other researchers focused on country-level factors and institutional differences across developed and emerging economies (Wnuk-Pel, 2014).

## 4. Discussion of results

The research objective was to identify the significant determinants of investment appraisal of Pakistani listed firms across sectors in different economic recessions.

<b>Determinants</b>	<b>Significance</b>
ROA	Significant (negative)
LEV	Significant (Positive) ***
GR	Significant (Positive) ***
MUNIF	Significant (negative) ***
DAYN	Significant (Positive) ***
INF	Significant (Positive) ***
GDP	Significant (negative) **

Source: Estimation output

In contrast, by using fixed affects model in post period the results are different the sign of coefficients negative and p-value is significant. It is found that profitable companies use more NPV and the relationship with other methods is either not significant or negatively related to this variable. Growth companies might also be more likely to calculate the profitability index, because they might have more potential new investment. Furthermore, the sign of coefficient for leverage is positive and p-value is significant.

In contrast, growth rates show positive sign of coefficient, the p-value is significant which indicates that there is positive significant relationship between growth and investment in pre-and post-period by applying both models OLS regression and fixed affects model. Some other determinants at sectors level e.g. Munificence shows negative significant relationship with investment because the sign of coefficient is negative and p-value is significant by applying both models OLS regression and fixed affects model. It means there is positive significant relationship between munificence and investment in pre-period. In contrast, the sign of coefficient in post period for munificence is negative but p-value is significant by applying both models. Dynamism shows the sign of coefficient positive and the p-value is significant indicating that there is significant positive relationship between dynamism and investment by applying both models OLS regression and fixed affects model.

Finally, at country level the reported determinants are inflation and GDP. The sign of coefficient for inflation is positive and p-value is significant which means there is significant affects in pre-period by applying both models OLS regression and fixed affects model. In post period, the result is insignificant and sign is negative by applying both models. The inflation rate below the threshold level has a positive effect but little effect on investment, while above the threshold at which a negative and significant impact on the strong investment.

Furthermore, the sign of coefficient for GDP is negative and p-value is significant. It indicates that GDP has effects on investment in pre-period by applying both models OLS regression and fixed affects model. However, the sign of coefficient is still positive but the p-value is insignificant in post period by

applying both models. Some other researchers focused on country-level factors and institutional differences across developed and emerging economies Wnuk-Pel, (2014).

**Research Objective 02** - To categorize whether and how determinants of investment decisions are differing indifferent economic recessions?

**Table no. 6. Determinants in Pre-Period and Post-Period**

Variables	Pre-Period	Post Period
ROA	Insignificant (negative)	Significant (negative) ***
LEV	Significant (negative)	Significant (Positive) ***
GR	Significant (Positive) ***	Significant (Positive) ***
MUNIF	Significant (negative) ***	Insignificant (negative)
DAYN	Significant (Positive) ***	Insignificant (negative)
INF	Significant (Positive) ***	Insignificant (negative)
GDP	Significant (negative) **	Insignificant (Positive)

Source: Author's compilation

In the light of above table the results for the significant determinants of investment appraisal are quite different in pre-and post-financial period. Return on assets shows insignificant relationship in pre-period but in post the results are significant at 99% level. In accordance with the level of significance, we finalized our hypothesis. In line with the relationship between return on assets and investment appraisal, this is significantly negative in post period.

Leverage shows a significantly negative relationship with investment appraisal in pre-period but in post period this relationship is significantly positive at 99% level. Finally, there is positive significant relationship between leverage and investment appraisal. Furthermore, growth shows significant positive relationship in both periods at 99% level of significance. Munificence shows significant negative relationship in pre-period at 99% level of significance but in post period this relationship is insignificant. Dynamism shows significant positive relationship in pre-period at 99% level of significance but in post period this relationship is insignificant. Inflation shows significant positive relationship in pre-period at 99% level of significance but in post period this relationship is negatively insignificant. GDP shows significant negative relationship in pre-period at 99% level of significance but in post period this relationship is positively insignificant.

In conclusion, in the light of above discussion, there are quite different results in pre-and post-windows of economic recession. The key findings or hypothesis of this study developed on the base of evidence and with the help of the signs of coefficients, significant or insignificant at 99% level. Some factors show the same results but the level of significance is different. Finally, the findings of this study are based on empirical evidence and the results are different in pre-and post-windows or make a sensitivity analysis.

## Conclusion and implications

In conclusion, the results showed the sensitivity analysis for investment of Pakistani non-financial listing firms and the associated techniques supported the significant determinants of investment appraisal. There are other factors not related to the investment appraisal in sensitivity analysis. Investors can invest after checking the behavior in different economic conditions. However, it was not possible to get the same result when making a sensitivity analysis for the economic recession. In each economic window, different results are reported. Finally, the key findings of this study are based on diagnostic testing in which we test the health of instruments. The OLS regression and fixed affects model are also used to check the influence in different economic windows. In the future, by applying

dynamic modeling, adding some other factors at three different levels, increasing number of sectors, a sample with latest data set area of study can be investigated. The study is implacable for that investors need to analyse the use of investment factors carefully, to have a reasonable knowledge of the business before making an investment decision. Investors must evaluate all the variables in the environment rather than look at just one

variable. Investors also need to diversify their investments in various companies through the development of sensitivity analysis for different economic recessions. The study is also implacable for the financial intuitions to set their policies. Finally, study is also applicable for students making future research for different economic recessions and sectoral analyses.

## REFERENCES

1. Alexander, G.J. and Buchholz, R.A. (1978), Corporate social responsibility and stock market performance, *Academy of Management journal*, vol. 21, nr. 3, pp. 479-486.
2. Arby, M.F. (2001), *Long-run trend, Business Cycle & Short-run shocks in real GDP*. Available at <http://mpira.ub.uni-muenchen.de/4929/>, accessed on 25.04.2017.
3. Barclay, M.J. and Smith, C.W. (2005), The capital structure puzzle: The evidence revisited, *Journal of Applied Corporate Finance*, vol. 17, no. 1, pp. 8-17, DOI 10.1111/j.1745-6622.2005.012\_2.x.
4. Binder, J.J. and Chaput, J.S. (1996), A positive analysis of corporate capital budgeting practices, *Review of quantitative finance and accounting*, vol. 6, no. 3, pp. 245-257, DOI 10.1007/bf00245183.
5. Blocher, E.J., Stout, D.E., Cokins, G. and Chen K.H. (2008), *Cost Management: A Strategic Emphasis*, Fourth Edition. New York, America: McGraw-Hill Irwin.
6. Block, S. (2007), Are "real options" actually used in the real world?, *The engineering economist*, vol. 52, no. 3, pp. 255-267, DOI 10.1080/00137910701503910.
7. Booth, L., Aivazian, V., Demirguc-Kunt, A. and Maksimovic, V. (2001), Capital structures in developing countries, *The journal of finance*, vol. 56, no. 1, pp. 87-130.
8. Brailsford, T.J. and Yeoh, D. (2004), Agency problems and capital expenditure announcements, *The Journal of Business*, vol. 77, no. 2, pp. 223-256, DOI 10.1086/381274.
9. Brealey, R.A., Myers, S.C. and Allen, F. (2006), *Corporate finance*, Auflage, New York.
10. Brounen, D. and Eichholtz, P. (2004), Development involvement and property share performance: international evidence, *The Journal of Real Estate Finance and Economics*, vol. 29, no. 1, pp. 79-97, DOI 10.1023/b:real.0000027202.57984.21.
11. Builder, M. (2008), Rapid mashup development tool for Google and Yahoo Maps!. Diponibil la <http://www.mapbuilder.net/>, accessed on 25.04.2017.
12. Chakroun, R. and Matoussi, H. (2012), Determinants of the extent of voluntary disclosure in the annual reports of the Tunisian firms, *Accounting and Management Information Systems*, vol. 11, no. 3, pp. 335.
13. Christy, G.A. (1966), Capital budgeting, *Current Practices and their efficiency*, vol. 21, Bureau of Business and Economic Research, University of Oregon.
14. Daher, L. and Le Saout, E. (2015), The determinants of the financial performance of microfinance institutions: impact of the global financial crisis, *Strategic Change*, vol. 24, no. 2, pp. 131-148, DOI 10.1002/jsc.2002.
15. De Vries, A. (2010), *The effect of firm characteristics and economic factors on the capital structure of South African listed industrial firms* (Doctoral dissertation, Stellenbosch: University of Stellenbosch).
16. Dornbusch, R., and Fischer, S. (1987), *Macroeconomic*, fourth edition McGraw-Hill, New York.

17. Elliott, J.W. (1973), Theories of corporate investment behavior revisited, *The American economic review*, vol. 63, no. 1, pp. 195-207.
18. Fama, E.F. and French, K.R. (1996), The cross-section of expected stock returns, *The Journal of Finance*, vol. 47, no. 2, pp. 427-465.
19. Gatsi, J.G. and Akoto, R.K. (2010), Capital structure and profitability in Ghanaian, *SSRN Electronic Journal*, DOI 10.2139/ssrn.1618952.
20. Gaver, J.J., Gaver, K.M. and Battistel, G.P. (1992), The stock market reaction to performance plan adoptions, *Accounting Review*, pp. 172-182.
21. Graham, J.R. and Harvey, C.R. (2001), The theory and practice of corporate finance: Evidence from the field, *Journal of financial economics*, vol. 60, no. 2, pp. 187-243, DOI 10.2139/ssrn.220251.
22. Griner, E.H. and Gordon, L.A. (1995), Internal cash flow, insider ownership, and capital expenditures: a test of the pecking order and managerial hypotheses, *Journal of Business Finance & Accounting*, vol. 22, no. 2, pp. 179-199, DOI 10.1111/j.1468-5957.1995.tb00678.x.
23. Hall, M. and Weiss, L. (1967), Firm size and profitability, *The Review of Economics and Statistics*, pp. 319-331.
24. Haller, S. and Murphy, L. (2012), Corporate Expenditure on Environmental Protection, *Economic and Social Research Institute (ESRI)*, Working Paper, Available at <https://econpapers.repec.org/paper/esrwpaper/wp347.htm>, accessed on 25.04.2017.
25. Hamidi, M. (2015), Determinants of Capital Expenditure Decisions in the Malaysian Companies, *Proceedings of the Australasian Conference on Business and Social Sciences 2015*, Sydney.
26. Handa, P. and Schwartz, R.A. (1996), How best to supply liquidity to a securities market, *The Journal of Portfolio Management*, vol. 22, no. 2, pp. 44-51, DOI 10.3905/jpm.1996.44.
27. Hirshleifer, D.A. and Suh, Y. (1992), Risk, Managerial Effort and Project Choice, *Journal of Financial Intermediation*, vol. 2, no. 3, pp. 308-345, DOI 10.1016/1042-9573(92)90004-w.
28. Holmen, M. and Pramborg, B. (2009), Capital budgeting and political risk: Empirical evidence, *Journal of International Financial Management & Accounting*, vol. 20, no. 2, pp. 105-134. DOI 10.2139/ssrn.881750.
29. Holmes, M.J. and Maghrebi, N. (2015), Reconsidering the role of Tobin's Q: Nonlinearities and the adjustment of investment expenditure, *Studies in Economics and Finance*, vol. 32, no. 2, pp. 222-234, DOI 10.1108/sef-08-2014-0151.
30. Hossain, F. and Ali, A. (2012), Impact of firm specific factors on capital structure decision: an empirical study of Bangladeshi Companies, *International Journal of Business Research and Management*, vol. 3, no. 4, pp. 163-182.
31. Kayo, E.K. and Kimura, H. (2011), Hierarchical determinants of capital structure, *Journal of Banking & Finance*, vol. 35, no. 2, pp. 358-371, DOI 10.1016/j.jbankfin.2010.08.015.
32. Klammer, T. (1972), Empirical evidence of the adoption of sophisticated capital budgeting techniques, *The Journal of Business*, vol. 45, no. 3, pp. 387-397, DOI 10.1086/295467.
33. Kudla, R.J. (1980), The effects of strategic planning on common stock returns, *Academy of Management Journal*, vol. 23, no. 1, pp. 5-20, DOI: 10.2307/255493 .
34. Leon, F.M., Isa, M. and Kester, G.W. (2008), Capital budgeting practices of listed Indonesian companies, *Asian Journal of Business and Accounting*, vol. 1, no. 2, pp. 175-192.
35. Lu-Andrews, R. and Yu-Thompson, Y. (2015), CEO inside debt, asset tangibility, and investment, *International Journal of Managerial Finance*, vol. 11, no. 4, pp. 451-479, DOI 10.2139/ssrn.2448858.
36. Mahmood, T. and Arby, M.F. (2012), Business cycles in Pakistan, *International Journal of*

- Business and Social Science*, vol. 3, no. 4, pp. 271-277.
37. Mandelker, D.R. (1994), *NEPA, Law and Litigation*, Editura Clark Boardman, New York.
  38. Matoussi, H., Karaa, A. and Maghraoui, R. (2004), Information asymmetry, disclosure level and securities liquidity in the BVMT, *Finance India*, vol. 18, pp. 547-558.
  39. McConnell, J.J. and Muscarella, C.J. (1985), Corporate capital expenditure decisions and the market value of the firm, *Journal of financial economics*, vol. 14, no. 3, pp. 399-422, DOI 10.1016/0304-405x(85)90006-6.
  40. Mehta, A. (2012), An empirical analysis of determinants of dividend policy-evidence from the UAE companies, *Global Review of Accounting and Finance*, vol. 3, no. 1, pp. 18-31.
  41. Mertens, D.M. (2003), Mixed methods and the politics of human research: The transformative-emancipatory perspective, *Handbook of mixed methods in social and behavioral research*, pp. 135-164.
  42. Moeinaddin, M., Nayebzadeh, S. and Ghasemi, M. (2013), The relationship between product market competition and capital structure of the selected industries of the Tehran Stock Exchange, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, vol. 3, no. 3, pp. 221-233, DOI 10.6007/ijarafms/v3-i3/132.
  43. Naveed, M., Ramakrishnan, S., Ahmad Anuar, M. and Mirzaei, M. (2015), Factors affecting speed of adjustment under different economic conditions: Dynamic capital structure sensitivity analysis, *Journal of Chinese Economic and Foreign Trade Studies*, vol. 8, no. 3, pp. 165-182, DOI 10.1108/jcefts-08-2014-0015.
  44. Newman, I., Ridenour, C.S., Newman, C. and DeMarco Jr, G.M.P. (2003), An apology of research purposes and its relationship to mixed methods, *Handbook of mixed methods in social & behavioral research*, vol. 167.
  45. Penman, S.H. (2009), Accounting for intangible assets: There is also an income statement, *Abacus*, vol. 45, no. 3, pp. 358-371, DOI 10.2139/ssrn.1916314.
  46. Punch, K.F. (1998), *Mixed methods and evaluative criteria. Introduction to social research*, Sage, London, pp. 239-250.
  47. Rashid, A.T. and Rahman, M. (2009), Making profit to solve development problems: the case of Telenor AS and the Village Phone Programme in Bangladesh, *Journal of Marketing Management*, vol. 25, no. 9-10, pp. 1049-1060, DOI 10.1362/026725709x479363.
  48. Ross, W. (2005), *Jaffe. Corporate finance*, 7. Irwin/McGraw-Hill
  49. Saquido, A. (2003), *Determinants of Corporate Investment*, Available at [http://cba.upd.edu.ph/docs/DP/0402\\_saquido.pdf](http://cba.upd.edu.ph/docs/DP/0402_saquido.pdf), accessed on 25.04.2017.
  50. Schall, L.D. and Sundem, G.L. (1980), Capital budgeting methods and risk: A further analysis, *Financial Management*, 7-11.
  51. Setayesh, M.H. and Kargarfard, M. (2011), The investigation of effect of product market competition on capital structure, *Journal of Empirical Research of Financial Accounting*, vol. 1, no. 1, pp. 9-30.
  52. Shah, A. and Khan, S. (2007), Determinants of capital structure: Evidence from Pakistani panel data, *International Review of Business Research Papers*, vol. 3, no. 4, pp. 265-282.
  53. Shinoda, T. (2010), Capital budgeting management practices in Japan: a focus on the use of capital budgeting methods, *Economic Journal of Hokkaido University*, vol. 39, pp. 39-50.
  54. Simerly, R.L. and Li, M. (2000), Environmental dynamism, capital structure and performance: a theoretical integration and an empirical test, *Strategic Management Journal*, vol. 21, no. 1, pp. 31-49, DOI 10.1002/(sici)1097-0266(200001)21:1<31::aid-smj76>3.3.co;2-k.

55. Smith, A. (2014), Leveraging sport mega-events: new model or convenient justification?, *Journal of Policy Research in Tourism, Leisure and Events*, vol. 6, no. 1, pp. 15-30, DOI 10.1080/19407963.2013.823976.
56. Sundem, G.L. (1974), Evaluating simplified capital budgeting models using a time-state preference metric, *The Accounting Review*, vol. 49, no. 2, pp. 306-320.
57. Symeou, L. (2008), From school—family links to social capital: Urban and rural distinctions in teacher and parent networks in Cyprus, *Urban Education*, vol. 43, no. 6, pp. 696-722. DOI 10.1177/0042085907311825.
58. Weston, J.F. and Brigham, E.F. (1979), *Study Guide for Essentials of Managerial Finance and Managerial Finance*, The Dryden Press.
59. Wnuk-Pel, T. (2014), The practice and factors determining the selection of capital budgeting methods—evidence from the field, *Procedia-Social and Behavioral Sciences*, vol. 156, pp. 612-616, DOI 10.1016/j.sbspro.2014.11.250.
60. Wu, J.H. and Wang, S.C. (2005), What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model, *Information & Management*, vol. 42, no. 5, pp. 719 – 729, DOI: 10.1016/j.im.2004.07.001.

Camera Auditorilor Financiari  
*af*  
din România



64226571000013