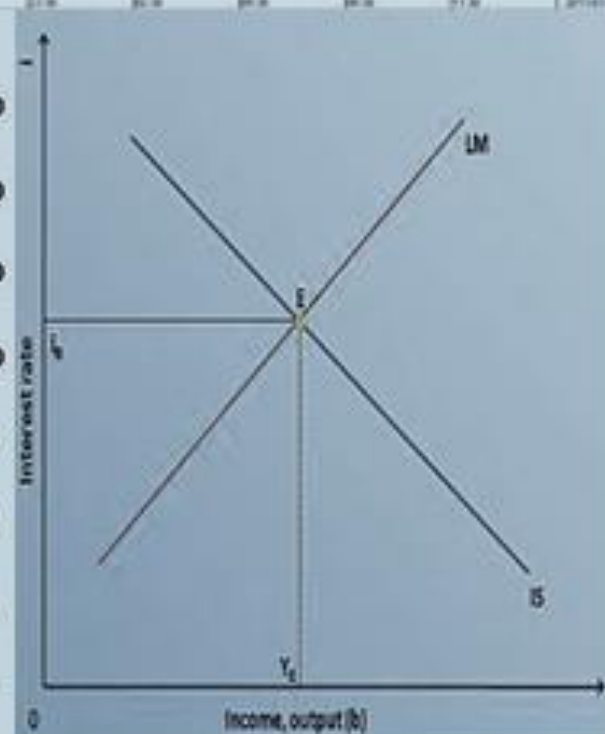


Vol. 5, Issue 3, 2017
ISSN 2343-7995 (online)



Hyperion Economic Journal



HYPERION ECONOMIC JOURNAL

**Quarterly journal published by the Faculty of Economic Sciences from the Hyperion University
of Bucharest, Romania**

**YEAR V, ISSUE 3, September 2017
ISSN 2343-7995 (online)**

EDITORIAL BOARD

Chief Editor:

Iulian PANAIT, Hyperion University of Bucharest

Associated editors:

Șerban ȚĂRANU, Hyperion University of Bucharest

Andrei Mihai CRISTEA, Hyperion University of Bucharest

Oana IACOB, Hyperion University of Bucharest

Iulia LUPU, Financial and Monetary Research Centre „Victor Slăvescu”, Romanian Academy

SCIENTIFIC BOARD

Lucian Liviu ALBU, Institute for Economic Forecasting, Romanian Academy

Ion GHIZDEANU, Romanian National Forecasting Commission

Anca GHEORGHIU, Hyperion University of Bucharest

Dorin JULA, Ecological University of Bucharest

Daniel ARMEANU, Bucharest University of Economic Studies

Gheorghe HURDUZEU, Bucharest University of Economic Studies

Mariana BĂLAN, Institute for Economic Forecasting, Romanian Academy

Mărioara IORDAN, Institute for Economic Forecasting, Romanian Academy

Sorin BRICIU, 1 December 1918 University of Alba Iulia

Ion PĂRGARU, University Politehnica of Bucharest

Ionut PURICA, Institute for Economic Forecasting, Romanian Academy

Marin ANDREICA, Bucharest University of Economic Studies

Ana Paula LOPES, University of Porto

Marina Ochkovskaya, Lomonosov Moscow State University

Maria Jose Del Pino Espejo, Universidad Pablo de Olavide Sevilla

Susana Pilar Gaitan Guía, Universidad de Sevilla

Anda GHEORGHIU, Hyperion University of Bucharest

Carmen UZLĂU, Hyperion University of Bucharest

Corina Maria ENE, Hyperion University of Bucharest

Radu LUPU, Bucharest University of Economic Studies

Tudor CIUMARA, Financial and Monetary Research Centre „Victor Slăvescu”, Romanian Academy

Iulian PANAIT, Hyperion University of Bucharest

Editorial Office: Hyperion University, Faculty of Economic Sciences,
Calea Calarașilor no. 169, district 3, Bucharest, 030615

<http://www.hej.hyperion.ro> hej@hyperion.ro

CONTENTS

Characteristics of the Labor Market in Romania between 2008-2016	3-14
<i>Mariana Balan, Carmen Uzlaşu, Corina Maria Ene</i>	
The Approach of the Accounting Information through the Prism of Managerial Accounting	15-19
<i>Andrei Cristea</i>	
Mobile Business Intelligence Applications	20-25
<i>Marian Pompiliu Cristescu, Ioana Andreea Bogoslov</i>	
The Impact of Terrorism on Equity Returns: Evidence from the Nigerian Stock Market	26-34
<i>Hassan O. Ozekhome</i>	
Programs for Monitoring Intra-Community Acquisition and Delivery in order to Reduce Tax Evasion	35-39
<i>Geraldina Terezia Vajda</i>	

CHARACTERISTICS OF THE LABOR MARKET IN ROMANIA BETWEEN 2008-2016

Mariana Bălan, PhD

Institute for Economic Forecasting-NIER, Romanian Academy
dr.mariana.balan@gmail.com

Carmen Uzlău, PhD

Institute for Economic Forecasting-NIER, Romanian Academy
„Hyperion” Univesity, Bucharest
carmen_uzlau@yahoo.com

Corina Maria Ene, PhD

„Hyperion” Univesity, Bucharest
corina.maria.ene@gmail.com

Abstract: *The level and quality of employment are important indicators for the current society, workforce being the main engine for the development of any modern economy. Within its Europe 2020 Strategy, the European Union has set itself the target for the 2020 horizon, to reach a 75% employment rate for population aged 20-64-years old at European level. Romania has set an employment target of 70% by 2020 for the same population.*

Given the current context, Romania's economy is under the influence of a continuous and dynamic process of change, emerged from both the transition to the market economy and the phenomenon of globalization.

This paper proposes a systematic, but not complete, approach of the consequences of the global crisis, on the main indicators of the labor market at national level, highlighting the main characteristics of the Romanian labor market: evolutions, structures, peculiarities, regional disparities, etc.

Keywords: *labor market, labor resources, employment rate, unemployment rate, employment level*

JEL Classification: *E24, J21, J23, J62, J64*

Introduction

The major concerns of all European Union states, found both in the Lisbon Strategy and in the Europe 2020 Strategy, are sustainable economic development, research, innovation and education, increasing the share of employed people and developing a inclusive labor market by creating jobs for inactive, least employable or socially vulnerable people.

Since all European states face a declining birth rate, the aging of the population, with increasing imbalances between the employed population and the one benefiting from the support of the social systems, they raise the question of integrating into the labor market a higher percentage of the population able to secure themselves an income by providing a useful work for society, by creating all the conditions for achieving this target.

The recent economic and financial crisis has shown that new skills and new jobs are needed to modernize the labor market and provide more autonomy for citizens to increase labor market participation and match labor demand and supply better, including through professional and geographical mobility.

Although Romania does not currently face a serious unemployment problem (the unemployment rate in 2016 at national level was 5.9% compared to the European average of 8.6%), the rate of activity and the employment rate of the working age population registered in our country continues to be among the lowest in Europe and almost 4 percentage points of the national target set for the achievement of the Europe 2020 targets.

In addition, disparities persist or even deepen between urban and rural areas, between small towns and big cities and between different social groups.

The uncertainty that has occurred since 2009 as a result of the economic crisis has been characterized by significant decreases in investment and consumption, leading to stagnation or even diminishing demand for goods and services and, implicitly, new jobs. In addition, in some areas, redundancies have been recorded, thus increasing the number of unemployed. At the same time, this change has strongly influenced the main features of the labor force, with strong implications, both economically and socially. The effects of these changes were felt differently at regional level in our country, depending on the degree of development, one of the most affected regions being the North-East region.

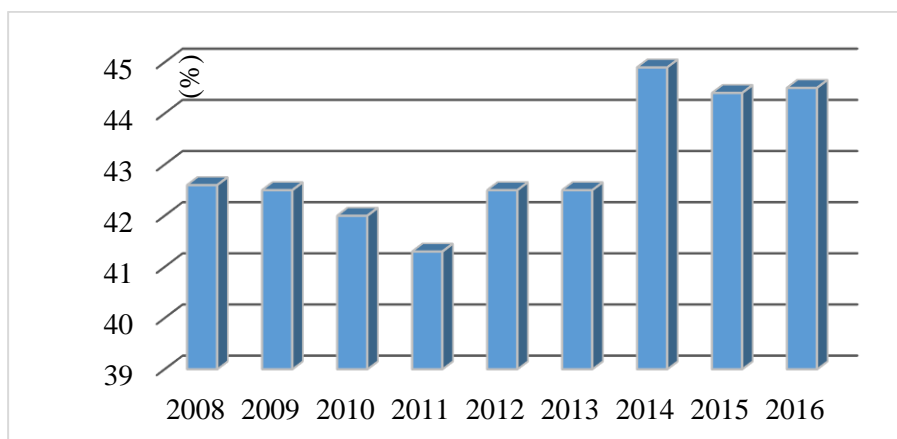
The paper aims to identify the peculiarities and problems specific to the labor market at the national level between 2008-2016. The low employment rate, activity, unemployment, school dropout, heavy family situations, poor health, gender inequalities are only a few of the causes that can lead to the growth and perpetuation of vulnerability and poverty, and implicitly to the increase in the number of unemployed or young people entering in the NEET category.

1. Special features of the Romanian labor market in 2008-2016

In order to understand the labor market mechanisms, a series of statistical indicators obtained either directly through measurement such as: labor resources, active population, employed population, number of employees the unemployed number, or by calculating derived indicators such as: activity rate, employment rate, unemployment rate, NEET rate, economic dependency rate, etc. are to be analyzed.

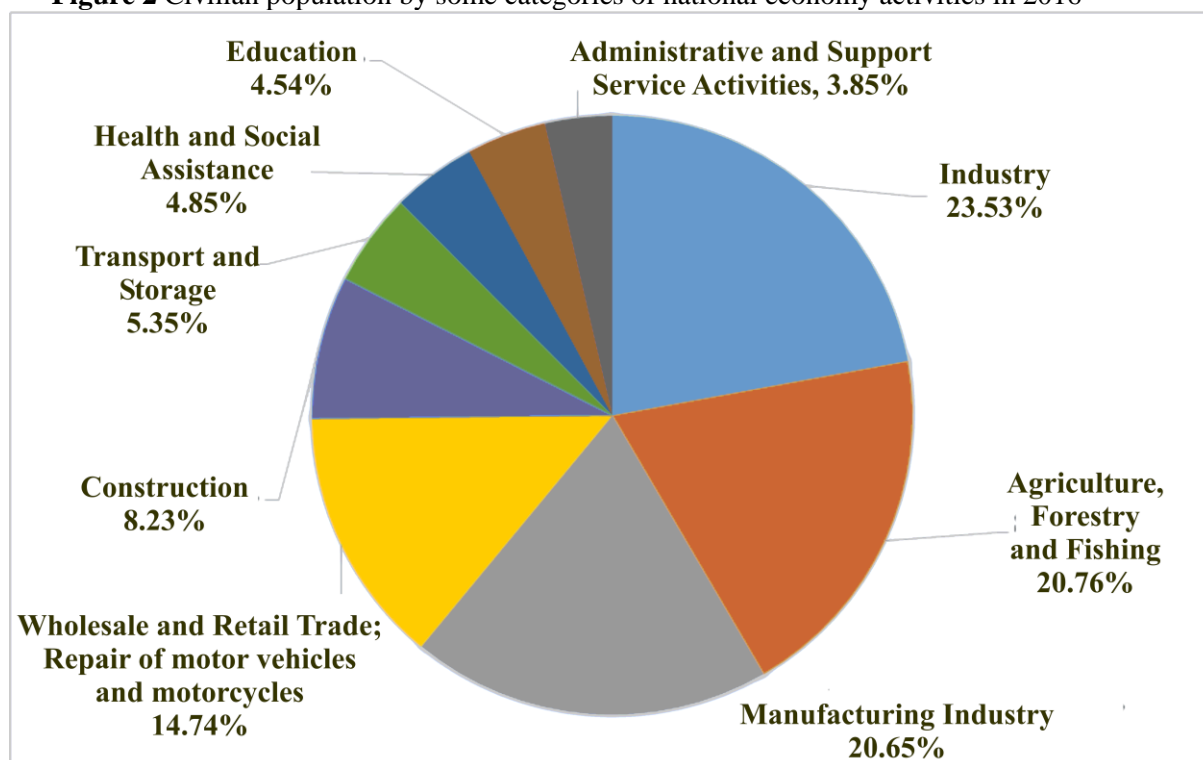
Civil economically active population, which characterizes the potential labor supply and the employment rate of the population including the civilian employment and registered unemployed, decreased in Romania in 2016 by 414.6 thousand persons compared to 2007. The distribution by sex of the active population at national level reveals that in the period 2007-2016, the employed male population registered a reduction 1.81 times lower than the female population, out of the 414.6 thousand people 147.3 thousand were men and 267.3 thousand being women.

In terms of **gross activity rate**, it increased in the period 2007-2016 by 2.3 percentage points (from 42.2% in 2007 to 44.5% in 2016). Thought, in 2016 this rate lowered by 0.4 pp compared to that recorded in 2014 (Figure 1).

Figure 1 Evolution of the gross activity rate in Romania during 2008-2016

Data source: TEMPO-online database, National Institute of Statistics, insse.ro

Regarding the **employed civilian population by categories of activities of the national economy**, the analysis of statistical data over the considered period highlights the fact that the sector "Agriculture, Forestry and Fisheries" tends to decrease starting with 2012 (by 8.53 percentage points in 2016 compared to 2012). In 2007-2011, the employed population decreased in all sectors of the national economy, except in the sectors "Wholesale and retail trade"; "Repair of motor vehicles and motorcycles", which had an upward trend over the analyzed period. The year 2016 is the first year of the considered period where the share of the occupied population in the industry exceeds that of the employed population in agriculture (Figure 2).

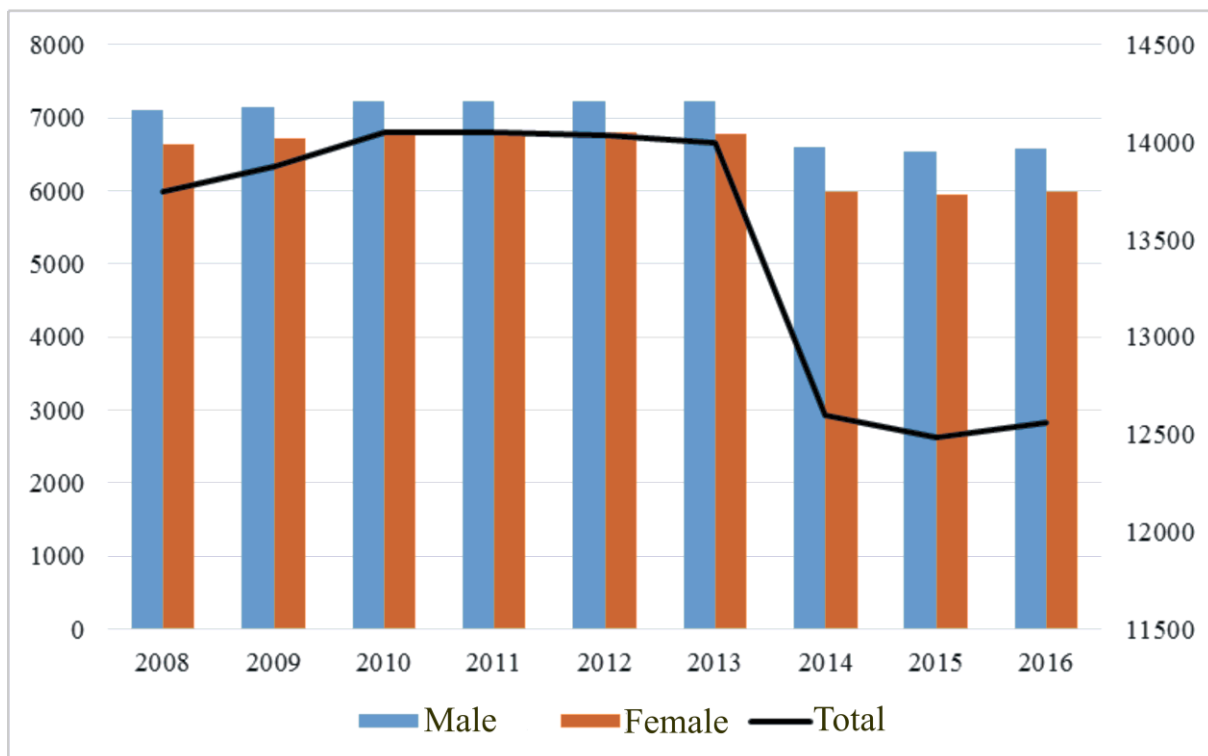
Figure 2 Civilian population by some categories of national economy activities in 2016

Data source: TEMPO-online database, National Institute of Statistics, insse.ro

Resursele de muncă, au înregistrat, în anul 2016, o creștere de 0,55 pp. față de anul 2015. Până în anul 2010, la nivel național, evoluția resurselor de muncă s-a situat pe un trend ascendent, la nivel național creșterea fiind de 830,7 mii persoane față de anul 1990. Începând cu anul 2010, numărul resurselor de muncă s-a diminuat an de an, până în anul 2015, când a înregistrat o ușoară creștere (Figura 3).

Labor resources registered an increase of 0.55 percentage points in 2016 compared to 2015. By 2010, at the national level, the evolution of labor resources was on an upward trend, at national level the increase was of 830.7 thousand persons compared to 1990. Since 2010, the number of labor resources has decreased year-by-year, until 2015, when it registered a slight increase (Figure 3).

Figure 3 Evolution of labor resources in Romania during 2008-2016



Data source: TEMPO-online database, National Institute of Statistics, insse.ro

Over the 2008-2016 period, the occupancy rate has been oscillating, but since 2013 it has started to grow slightly, reaching 61.6% in 2016.

As during the previous years, the employment rate was higher in 2016 for males (69.7%, compared to 53.3% for women). Comparing by residence area, the employment rate was higher in urban areas (62.6%, compared to 60.2% in rural areas).

As regards the employment rate by age group, it was 22.3% for young people aged 15-24 years and 42.8% for elderly people (55-64 years).

The highest level of **employment rate** for older workers was recorded among graduates of higher education (86.2%). In 2016, 65.2% of people with medium education were employed while only 41.0% of those with low education were.

Employees, in the year 2016, up from 2015 (+139 thousand persons), still held the highest share (73.4%) in the total employed population. In the same year, self-employed workers and unpaid family workers accounted for 25.6% of the employed population.

Qualified workers in the “Agriculture, Forestry and Fisheries” sector accounted for 19.4% of the total occupied population. Significant weights in the total employed population were also the skilled workers (16.6%), the specialists in various fields of activity (15.2%) and the workers in the services sector (14.9%).

Of the total employed population, 23.1% worked in the agricultural sector, 29.9% in industry or construction and 47.0% in services. In the non-agricultural activities, 6497 thousand persons were occupied, with significant shares being held by those working in Manufacturing (24.6%), Trade (18.1%) and Construction (10.4%).

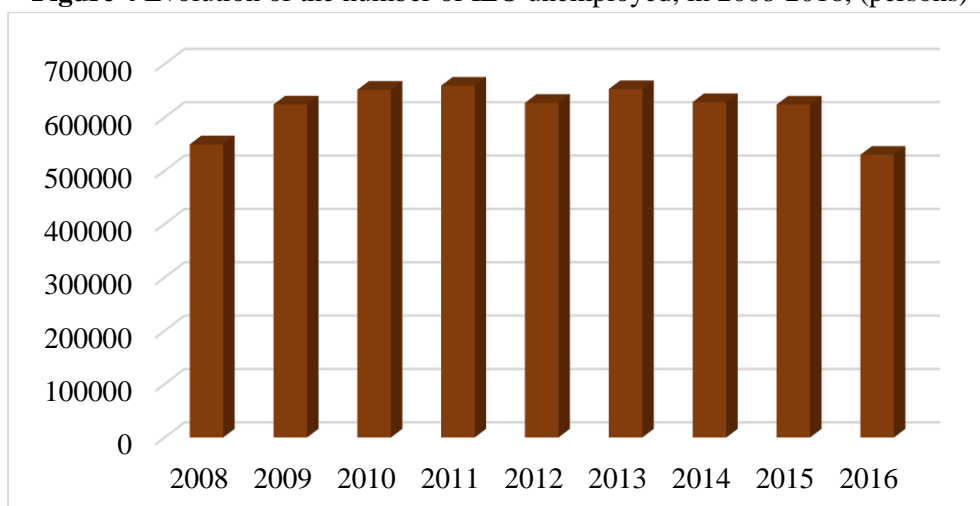
Of the total number of people employed in 2016, 723 thousand people (8.6%) worked part-time. The vast majority of part-time employees worked in the agricultural sector (82.8%).

In 2016, the average effective working week for the main activity was 38.8 hours per week; 130 thousand people also carried out secondary activities, working on average 12.9 hours per week.

According to data provided by the National Institute of Statistics, the number of **unemployed** in Romania decreased by 94041 in 2016 compared to 2015 and the unemployment rate by 1.5 percentage points.

In 2010, the largest number of unemployed was registered, 659426 persons, followed by 2009, when the number of unemployed was 651696, due to the effect of the economic crisis that started at the end of 2008 (Figure 4). Except for 2013, (when there were 652984 ILO unemployed), the number of unemployed persons in Romania decreased year on year, so that in the year 2016, there were 529869 unemployed.

Figure 4 Evolution of the number of ILO unemployed, in 2008-2016, (persons)



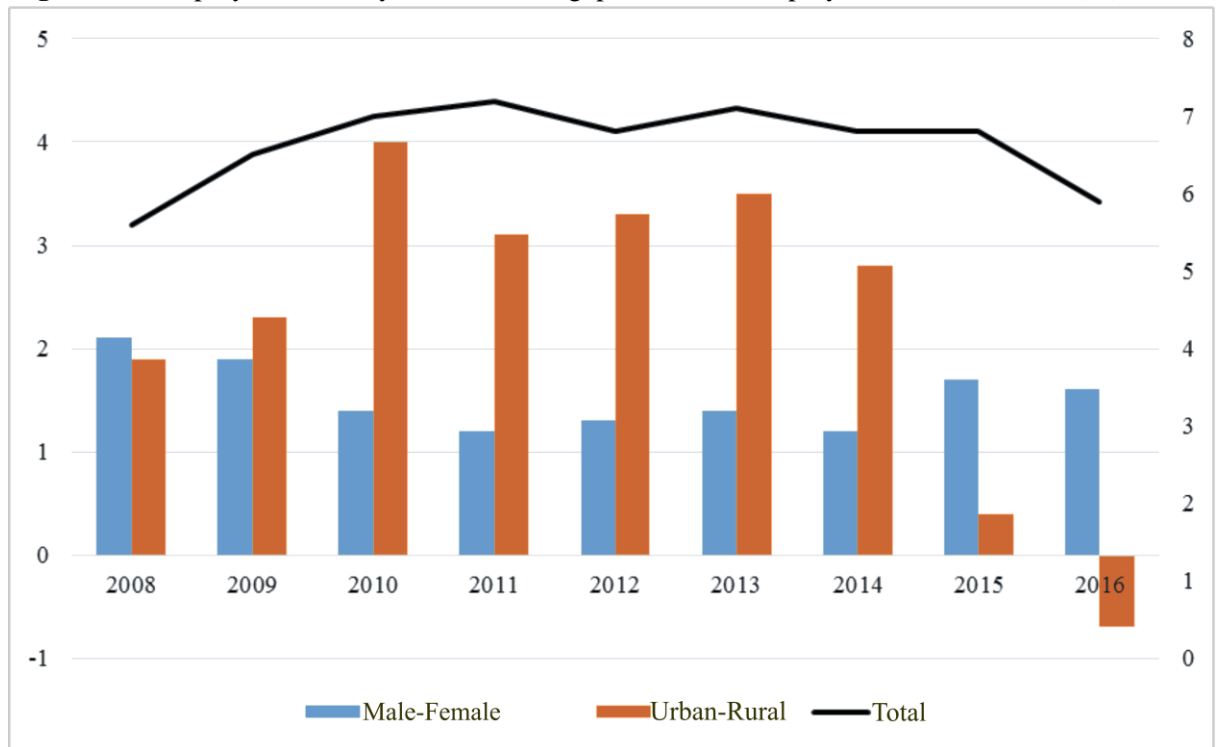
Data source: TEMPO-online database, "ILO unemployed - Household Labor Force Survey", National Institute of Statistics, insse.ro

With an unemployment rate of 5.9% in 2016 (down from the previous year: 6.8% in 2015), Romania holds a favorable position among the EU member states, ranked sixth in the top countries with

the lowest unemployment rates, a better position on unemployment than countries like France, Poland or even the Netherlands.

By gender, the difference between the two unemployment rates was 1.6 percentage points (6.6% for men versus 5.0% for women), and for residence areas by 0.7 percentage points (6.3 % in rural compared to 5.6% in urban areas) (Figure 5).

Figure 5 Unemployment rate by residence and gap between unemployed men and women (%)



Data source: TEMPO-online database, National Institute of Statistics, insse.ro

The unemployment rate also reached the highest level (20.6%) among young people (15-24 years) in 2016.

Unemployment had a greater impact on primary and secondary education graduates, whose unemployment rate was 7.6% and 6.2%, respectively. The unemployment rate was only 3.1% for people with higher education.

The long-term unemployment rate (one year and over unemployment) was 3.0%, and the incidence of long-term unemployment (the percentage of unemployed persons over one year and over in total unemployed) was 50.0% .

For young people (15-24 years), the long-term unemployment rate (six months and over) was 13.0%, while the long-term youth unemployment rate was 63.1%.

The economic growth in 2016 was also accompanied by an increase in the number of employees: at the end of the year there were 4.7 million employees, 3.4% more than in 2015. Even after 9 years of the economic crisis, the Romanian labor failed to recover the lost jobs, although the difference diminished to 100 thousand.

As in previous years, in 2016, the incidence of atypical work (fixed-term and / or part-time contracts, self-employed economically) continued its upward trend.

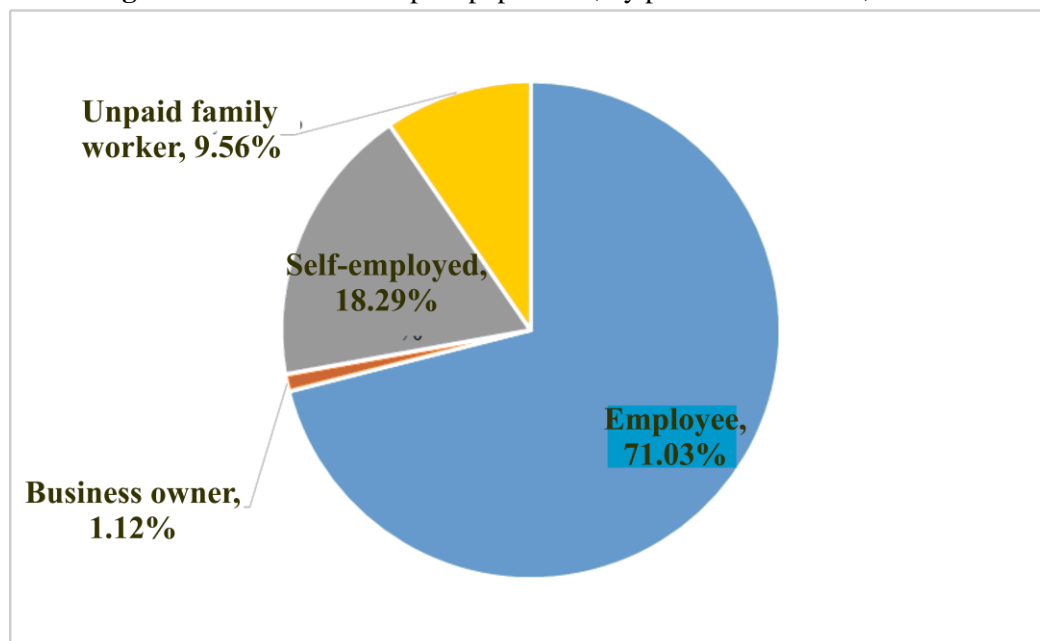
Official statistics show an unusually low number of employees with fixed-term and / or part-time employment contracts in Romania, but a detailed analysis of these shows that the difference between the number of active employees and the number of individual active contracts increased

between December 2015 and December 2016, from 13.3% of the total number of contracts to 13.9%. As a result, at the end of 2016, approximately 5.48 million active employees registered with the Labor Inspection were responsible for 6.24 million contracts. The difference can only be explained by the high incidence of atypical labor contracts.

Regarding newly created jobs, according to estimates¹ in 2016, more than 25% of the individual work contracts concluded were part-time, with an equivalent weight having also fixed-term contracts. A recently published study² highlights the relatively high incidence of fixed-term employment contracts in sectors such as construction or the automotive industry.

Besides atypical labor with work contract, dependent self-employment³ continues to weigh heavily on the Romanian labor market. Thus, according to the statistical data of the National Institute of Statistics in 2015, the employees accounted for only 71.3% of the employed population, while 18.3% of the employed persons had self-employed status (Figure 6).

Figure 6 Structure of occupied population, by professional status, in 2015



Data source: Romanian Statistical Yearbook 2016, National Institute of Statistics

It is important that this structure of employment is not entirely due to the high incidence of self-employment in agriculture, and it also occurs in non-agricultural sectors. It is natural to consider that a large proportion of these self-employed workers are in fact dependent self-employed, not so strictly from a tax point of view, as is currently done by Romanian legislation, but more generally, from an

¹ Conducted by Syndex România

² Trif A., Koukiadaki A. and Kahancová M., (2016), „*The rise of the dual labour market: fighting precarious employment in the new member states through industrial relations. Country Report: Romania*”, Technical Report, European Commission, <http://doras.dcu.ie>

³ Dependent self-employed work under various legal forms that involve equality (or independence) between the provider and the beneficiary, among the most widespread being the service contract as an authorized natural person or a natural person, the contract for the transfer of rights author and so-called civil conventions. The apparently contradictory phrase "dependent self-employed" suggests the discrepancy between the legal status of these workers - "on their own" - and the reality of the employment relationships in which they are located - "dependence"

economic point of view. Dependent self workers are less well paid and more vulnerable to job security and are less protected from abuses than employees, while having far less means to defend their interests⁴ (Guga 2016). These vulnerabilities are also important for employees, since, as with those working with fixed-term or part-time employment contracts, the precariousness of self-dependent work is an indirect source of vulnerability for all participants in the labor market, including the pressure it exerts on salaries and working conditions of employees for an indefinite period of time.

If at the end of 2015 the problem of labor shortages in Romania was rarely mentioned on the working agendas of the competent bodies in the field, at the beginning of 2017 it became, together with the minimum salary, the main topic in the debates on the Romanian labor market.

In particular, employers are increasingly worried about the low availability of labor, especially when it comes to future investment. Surveys show a significantly higher concern among Romanian employers compared to other countries. According to a Pricewaterhouse Coopers survey (PWC 2016), "the availability of key skills" is a concern for 85% of respondents in Romania, compared with an average of 72% globally. Also, a Manpower survey (Manpower Group 2017) places Romania on the third place globally in terms of employers' difficulties in finding the right workforce. The situation seems paradoxical since unemployment remains a problem, employment being still far below the level of 2008 and a large proportion of the occupied population is still unpaid.

The problem has to be analyzed, both quantitatively (the actual reduction in labor supply) and qualitatively (the so-called "skills deficit", the gap between the qualifications required by employers and those actually held by those looking for a job). From a strictly quantitative point of view, the overall situation does not seem to justify the hypothesis of such a crisis. If, indeed, starting in 2012, there is an increase in the vacancy rate (or labor market demand), in 2016 the level was still much lower than in the pre-crisis period.

In 2016, however, there is a decline in unemployment, combined with a slight increase in the vacancy rate. In both ways, however, the Romanian labor market seems to be still far from the situation in 2008. Strictly from a quantitative approach we can not talk about a crisis caused by a lack of labor force, but rather by the employers' reaction to the easy improvement of the position of bargaining the employees on the labor market. This change in the ratio of forces between employers and employees is also evident in the increase of the number of resignations and the stabilization of contractual terminations initiated by employers⁵.

Since the labor market does not really have a national dimension, with very few employers and employees having a realistic choice to recruit from or to engage in another region, regional dynamics are in many respects much more important than the one national.

The most common solution is to boost vocational education, which has suffered an accelerated decline over the last quarter of a century, particularly in the form of closer collaboration between investors and educational institutions. One of the solutions proposed was to stimulate companies' investment in labor force skills in exchange for fiscal facilities, but this could indirectly weaken the public education system, already massively underfunded. A selective and short-term policy may also fail for employers, since the risks of leaving the company (either in Romania or abroad) increase with the level of qualification, and the ability to compensate the departures is very limited in this context.

⁴ Guga Șt., (2016), *Munca atipică în România de la izbucnirea crizei. O perspectivă de ansamblu*. Next Publishing, București, 2016

⁵ *Redefining success in business in a changing world. The main results for Romania of the annual survey. Global CEO Survey*, PricewaterhouseCoopers, <http://www.pwc.com>

Hence the reluctance of many employers to invest substantial resources in training under these conditions.

As well as before the crisis and like in other Central and Eastern European countries, the lack of workforce in some regions is due to the combination of low wage levels and the re-emergence of alternatives in the labor market. Economic recovery at European and national level has reopened the possibility of going abroad for work and emerging of new opportunities (such as public employment) that were no longer available in the years of austerity. In other words, the lack of workforce experienced by employers, and in particular the middle and upper workforce, is rather a consequence of the development model based on the competitive advantage of skilled and cheap labor, a model that can not function rather than coercive, to the extent that employees have no viable alternatives to earn their living, and their ability to defend their interests is limited by legislative changes that weaken the power of trade unions.

Conclusions

Throughout the results obtained, the present paper contributes to the analysis and knowledge of the Romanian labor market situation during 2008-2016.

To some extent, Europe's and implicitly Romania's national economies have managed to recover losses and reach the pre-crisis levels of economic growth, but the number of new jobs created is still not sufficient to reduce the pressures on the labor market. This is due to the increased complexity of the economic environment that underwent profound transformations, including during the crisis period, with the choices of many businesses and companies making savings and cost cuts, especially by introducing new technologies on a large scale, implicitly reducing jobs and, in particular, reducing the opportunities for creating new jobs.

In this context, a first result of the paper is the realization of a brief analysis of the labor market peculiarities at national level during 2008-2016.

The labor resources registered a 0.55 percentage point increase in 2016 compared to 2015 and the employment rate had a oscillating evolution, but starting in 2013 it started to increase slightly, reaching 2016 to 61.6%.

The highest level of employment rate for older workers was recorded in 2016 among graduates of higher education (86.2%). 65.2% of people with medium education were employed and 41.0% of those with low education.

Compared to 2015, the number of people who worked in Agriculture, Forestry and Fisheries (-232 thousand people), as well as those who worked in Education (-9 thousand people) decreased in 2016, Public Administration and defense (-8 thousand persons), Mining and quarrying, Information and communications and Real estate transactions (all decreasing by 4 thousand persons over the previous year). The most significant increases compared to the previous year were recorded in Manufacturing (+46 thousand persons), Construction (+42 thousand people), Trade (+28 thousand persons) and Hotels and restaurants (+19 thousand persons).

With an unemployment rate of 5.9% in 2016 (down from the previous year: 6.8% in 2015), Romania ranks sixth among the Member States with the lowest unemployment rates, a better position concerning unemployment, than countries like France, Poland or even the Netherlands.

Besides atypical work contract work, self-dependent work continues to weigh heavily on the Romanian labor market.

By gender, the difference between the two unemployment rates was 1.6 percentage points (6.6% for men versus 5.0% for women) and 0.7 pp for residence (6.3 % in rural versus 5.6% in urban areas).

The fact that unemployment has not fallen sharply at the same time is not necessarily surprising, especially if the proliferation of fixed-term, part-time and temporary agency contracts is taken into account. In 2016, however, there is a decline in unemployment, combined with a slight increase in the

vacancy rate. However, the Romanian labor market seems to be still far from the situation in 2008. Strictly quantitative we can not bring into discussion a crisis caused by a shortage of the labor force but rather by the employers' reaction to the easy improvement of the bargaining position of the employees on the labor market.

Exhaustion of the labor pool with adequate qualifications, as far as this can be said, would be due to the combination of demand growth (as a result of investment) and falling supply (due to the aging and migration of skilled workers).

The most common solution is to boost vocational education, which has suffered an accelerated decline over the last quarter of a century, particularly in the form of closer collaboration between investors and educational institutions.

The labor market for the young population is defined by its specificity, namely the fact that it addresses a segment of the relatively narrow population, that of the population aged 15 to 29 years. The phenomenon of aging populations facing all European countries is impacted on this segment of the population, meaning that smaller groups of young people are assimilated into the active population, including the workforce.

References

- [1] Adăscăliței, D. și Clemente P., (2015), *Labour market reforms since the crisis: drivers and consequences*. Geneva: International Labour Office, www.ilo.org
- [2] *Anuarul Statistic al României*, 2008-2016, Institutul Național de Statistică;
- [3] *Baza de date Tempo-online* a Institutului Național de Statistică, www.insse.ro
- [4] Boboc, C.; Țițan, E.; Ghiță, S. (2012), *Labour Market Inequalities and Economic Development*, în *Economic Computation and Economic Cybernetics Studies and Research*, Vol. 4;
- [5] Bocean C., (2008), *The Impact of Active Labour Market Policies in Romania*, Online at <http://mpra.ub.uni-muenchen.de/10397/> MPRA Paper No. 10397;
- [6] Comisia Europeană. 2012. *Study on precarious work and social rights*. <http://ec.europa.eu/social>;
- [7] Contini B., (2010): *Youth Employment in Europe: Institutions and Social Capital Explain Better than Mainstream Economics*. IZA dp 4718;
- [8] Cornescu V., Bucur I., Crețoiu Gh., *Economie*, Editura CH Beck , 2011;
- [9] *Dezvoltarea potențialului de creare de locuri de muncă al unei noi economii durabile*, Rezoluția Parlamentului European din 7 septembrie 2010 referitoare la dezvoltarea potențialului de creare de locuri de muncă al unei noi economii durabile (2010/2010(INI)) (2011/C 308 E/02), www.ur-lex.europa.eu;
- [10] *Dialogul social în timpul crizei economice*, AURORA TRIF, 2015, Supraviețuirea negocierilor colective în sectorul industrial din România, <http://library.fes.de>;
- [11] Domnișoru, C., (2012), *Decent work policy options for the Romanian Economy*, Geneva: International Labour Office, www.ilo.org;
- [12] *Education and training*, Europe in figures — Eurostat yearbook 2011, www.epp.eurostat.ec.europa.eu;
- [13] *Employment and Social Developments in Europe 2015*, European Commission Directorate-General for Employment, Social Affairs and Inclusion Directorate. www.ec.europa.eu/social;

- [14] *Employment Outlook* 2012 -2016. Paris: OECD, www.oecd.org;
- [15] *EU Strategy for Youth – Investing and Empowering. A renewed open method of coordination to address youth challenges and opportunities*, Brussels, 27.4.2009, COM(2009)200 final, www.eur-lex.europa.eu;
- [16] *EUROPA 2020, O strategie europeană pentru o creștere inteligentă, ecologică și favorabilă incluziunii*, Bruxelles, 3.3.2010, COM(2010) 2020 final, www.eur-lex.europa.eu;
- [17] *Eurostat regional yearbook 2013-2016 - European Commission - Europa.eu*, ec.europa.eu;
- [18] Green, A. și Ilias L., (2015), *Involuntary non-standard employment in Europe*, European Urban and Regional Studies. <http://eur.sagepub.com>;
- [19] Guga St., (2016), *Munca atipică în România de la izbucnirea crizei. O perspectivă de ansamblu*, Next Publishing, www.relatii-industriale.ro;
- [20] Horváth, G., (2009), *Cohesion Deficiencies in Eastern and Central Europe – Inequalities of Regional Research Area*, Centre for Regional Studies of Hungarian Academy of Sciences, Discussion Papers, No. 72, Pécs;
- [21] *Învățământul profesional și tehnic. Provocări și perspective de dezvoltare*. Institutul de Cercetare a Calității Vieții Academia Română, www.iccv.ro
- [22] Iordache Ș.C., Militaru M., Pandioniu M.L., (2015), *Relația inversă dintre inflație și șomaj în România. Cât de puternică este în perioada postcriză?*, Caiete de Studii Nr. 41, BNR, www.bnr.ro;
- [23] *Labour market statistics*, European Union, 2015, www.epp.eurostat.ec.europa.eu;
- [24] Matei, L & Matei, A, (2010), *Local employment policies in the context of the economic crisis: Influences of the European Community structural instruments*, MPRA Paper No. 23086, <http://mpra.ub.uni-muenchen.de/23086/>;
- [25] Meardi G. (2012), *Social Failures of EU Enlargement: A Case of Workers Voting with their Feet*. Londra și New York: Routledge
- [26] *Monitoring e-Skills Demand and Supply in Europe, Current Situation, Scenarios, and Future Development Forecasts until 2015*, European Commission and Enterprise and Industry, www.eskills-monitor.eu;
- [27] *Proiect de Raport Comun al Comisiei și al Consiliului privind Ocuparea Forței de Muncă, care însoțește Comunicarea Comisiei privind Analiza anuală a creșterii 2015*, Bruxelles, 28.11.2014 COM(2014) 906 final, [www.ec.europa.eu](http://ec.europa.eu);
- [28] *Proiect de raport comun al comisiei și al consiliului privind ocuparea forței de muncă care însoțește Comunicarea Comisiei privind Analiza anuală a creșterii 2015*, Bruxelles, 28.11.2014, COM(2014) 906 final, www.eu.europa.eu;
- [29] *Proiecția principalilor indicatori economico – sociali în profil teritorial până în 2015*, Comisia Națională de Prognoză, (2012), <http://www.cnp.ro>
- [30] *Proiecția principalilor indicatori economico – sociali în profil teritorial până în 2019*, Comisia Națională de Prognoză, (2016), www.cnp.ro;
- [31] *Promovarea accesului tinerilor la piața forței de muncă și consolidarea statutului formării profesionale, stagiilor și ucenicilor*, Rezoluția Parlamentului European din 6 iulie 2010 referitoare la promovarea accesului tinerilor pe piața muncii și la consolidarea statutului stagiilor, stagiilor și ucenicilor (2009/2221(INI)), www.eur-lex.europa.eu;
- [32] *Propunere de RECOMANDARE A CONSILIULUI privind politicile de reducere a părăsirii timpurii a școlii*, Bruxelles, 31.1.2011, COM(2011), www.eur-lex.europa.eu;

- [33] *Redefinirea succesului în afaceri într-o lume în schimbare. Principalele rezultate pentru România ale sondajului anual Global CEO Survey*, PricewaterhouseCoopers, <http://www.pwc.com>
- [34] Rotaru, P., C., (2013), *Un model regional pentru piața muncii din România*, Economie teoretică și aplicată Volumul XX (2013), No. 5(582), pp. 69-75;
- [35] Savu M., Bursugiu M., (2013), *Evoluția șomajului în România*, Revista Strategii Manageriale, nr. 3(21), <http://www.strategiimanageriale.ro>;
- [36] Stănculescu M., (2009), *Riscuri, vulnerabilități și soluții pe piața muncii*, în Raportul Comisiei Prezidentiale, Riscuri și inechități sociale în România, București.
- [37] *Statistici Eurostat*, www.europa.eu;
- [38] *Strategia Națională pentru Dezvoltare Durabilă a României Orizonturi 2013-2020-2030*, Guvernul Romaniei, Ministerul Mediului și Dezvoltării Durabile, Programul Națiunilor Unite pentru Dezvoltare și Centrul Național pentru Dezvoltare Durabilă, Bucuresti 2008, www.agenda21.org.ro;
- [39] *Strategia Națională pentru Ocupare a Forței de Muncă 2014-2020*, Guvernul României Ministerul Muncii Familiei Protecției Sociale și Persoanelor Vârștnice, <http://www.mmuncii.ro>;
- [40] *Sustainable development in the European Union*, 2011 monitoring report of the EU sustainable development strategy, European Union, 2011, www.ec.europa.eu;
- [41] *Tineretul în mișcare – O inițativă de eliberare a potențialului tinerilor de a realize o creștere inteligentă, durabilă și favorabilă incluziunii în Uniunea Europeană*, Comisia Europeană Luxemburg: Oficiul pentru Publicații al Uniunii Europene, 2010, www.ec.europa.eu/social;
- [42] Trif A., Koukiadaki A. and Kahancová M., (2016), „*The rise of the dual labour market: fighting precarious employment in the new member states through industrial relations. Country Report: Romania*”, Technical Report, Comisia Europeană, <http://doras.dcu.ie>
- [43] Tudose G., Totan L., ș.a (2013), *Modele de analiză a pieței forței munca din România*, Economie teoretica și aplicata, volumul XX, NR.4, pp.104-113 http://store.ectap.ro/articole/855_ro.
- [44] *World Employment and Social Outlook 2016: Trends for youth - ILO*, Geneva, 2016, www.ilo.org;

THE APPROACH OF THE ACCOUNTING INFORMATION THROUGH THE PRISM OF MANAGERIAL ACCOUNTING

Andrei – Mihai Cristea, PhD Candidate
University „1 Decembrie 1918” Alba Iulia
cristeaandm@yahoo.com

Abstract: *Managerial accounting is a crucial management tool required for measurement of appreciation and improve the performance of the entity. This includes information it generates and choosing those options that allow decision on which economic and financial future of the entire entity. Their methods of costing has both advantages and disadvantages. But whatever the system used, the information provided at the appropriate time should be relevant, accurate and reasonable cost. Election costs are calculated depends on many constraints. These are caused by the way the entity, provisional management mode or budgetary constraints contractual continuity and analytical treatment system, which should allow realistic comparisons between different periods.*

Keywords: management accounting, cost, expense accounting information

JEL Classification: M41, M48

1. Introduction

Information cost means the raw material cost for financial analysis aimed at assessing strategic alternatives available, of which are chosen as financially feasible. For the strategy is the most important means of transmitting information is the accounting reports. These should be based on critical success factors necessary to achieve the chosen strategy. Implementing any strategy is based on all the financial analysis is performed using accounting information and aims to develop specific tactics chosen strategy. Performance monitoring is partly based on a cost information provided by management accounting, particularly on the results of such methods as target cost, expense budgets or annual planning profit.

Managerial accounting uses advanced techniques compared to the same time costing and covers a broader scope. However, a fundamental requirement is the existence of a solid cost information system that can be able to supply the fundamentals of managerial accounting needs. As a summary, we emphasize that both managerial accounting and cost information system are oriented towards providing information with a high degree of detail in order to support planning and control basing any decisions, focusing on cost of products, activities and functions ⁶.

2. Characteristics of accounting information

The features must fulfill the information in the annual financial statements to be useful for

⁶ Budugan D., Georgescu I. (2006), *Cost-based decisions under uncertainty condiiyions*, The scientific Annals of "Alexandru Ioan Cuza" Iasi

decision making was stated by accounting conceptual framework of the International Accounting Standards Board (IASB). These relate to the following:

- intelligibility and ease with which users understand accounting information;
- relevance or appropriateness, the information influences the economic decisions of users, giving them the necessary support in the event the evaluation of the past, present and future, or to correct the previous evaluations;
- reliability when information is not free of material errors is not biased, giving users a degree of credibility;
- comparability over time, the ability to compare successive financial statements of the same entity and extract trends that entity's financial position and performance;
- comparability in space that users should be able to compare the financial statements of entities with similar entities to assess the financial position and performance ⁷.

The main objective of the managerial accounting aims to reflect all the operations of collection and distribution of the expenditure on the destinations.

3. Managerial accounting - accounting details

Managerial accounting is an accounting details (relationships within the entity), while financial accounting is a global accounting (entity relationship with the environment). Management accounting position depending on the flow of information concerning the entity is shown schematically in Figure 1.

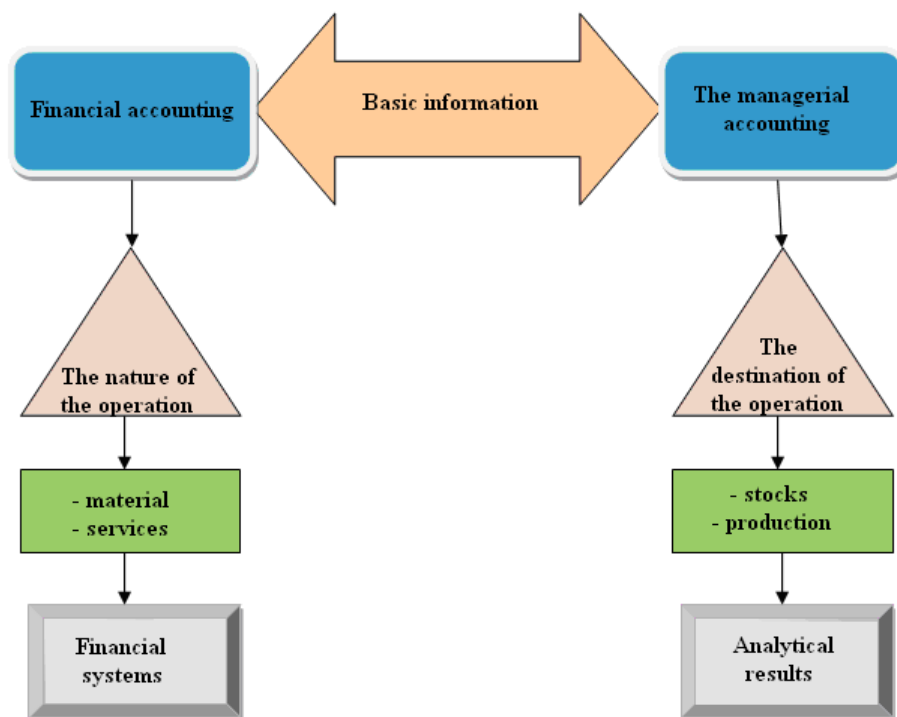


Figure 1. Management accounting position depending on the flow of information regarding the entity
 Source: Bump I Horga V. Radu M. (2003), *Management Accounting*, Niculescu Publishing House, Bucharest

⁷ IASB conceptual framework accounting reporting, International Financial Reporting Standards, in 2007, Ed CECCAR Bucharest

Activities are consuming resources and resource consumption at a cost that requires monitoring and control. To this end, it is essential to understand and identify the factors influencing the behavior of costs that can be called generic cost drivers.

The main cost inductor, considered as the basis of the development of other substance is customer demand whose level decisions which determine the most developed at the end is reflected in the cost. A useful classification cost drivers can be grouped into three categories:

- ✓ structural cost drivers (related to the size and scope of operations and technology involved in delivering products to customers),
- ✓ organizational cost drivers (related to organizing activities and staff involvement in decision making) and
- ✓ cost drivers of activities (which refers to the specific activities carried out

Inducers cost structures are determined by the size of the organization, its location, order operations and the technologies used and defined most often at the start of an activity or when deciding on a new market entry. Given the specificity of these inductors, making decisions that may affect structural define inducers is an activity with a reduced frequency.

A few examples of such substance related to the activity of the disposal of wine products in their own shops for example, as well as the costs of disposal are the size of the premises that influence the distribution and operational costs, the type of construction which according to the complexity, give rise to a different location of the shops, the technology required to operate the shops (information systems, air conditioning systems, etc.)

Organizational cost inductors arising from the type of business pursued and are determined as a consequence of decisions giving rise to structural inducers. Their existence is conditioned by making decisions on the number of selected suppliers and maintain a close relationship with them, sending employees to information about costs and delegation of authority in making decisions, reorganization of operational activities in order to improve the production process, etc.

Inducers cost of activities are specific to individual activities carried out in order to meet the overall objective of the organization, and are determined by decisions about ordering, purchasing raw materials, scheduling equipment, production time, staffing, packaging, specific activities sales, products, marketing of products, etc.

4. Quality of the Accounting

Credibility is essential for the accounting profession, so that they shall be required that certain standards of behavior, which the Institute of Management Accountants (Institute of Management Accountants) has adopted in 1983. It is a set of standards of behavior management accounting practitioners ethical standards outlining responsibilities for competence, confidentiality, integrity and objectivity.

Competence refers to the ability to understand and comply with all laws, regulations and technical standards that relate to their duties. As a result, all reports, financial analyzes and the reports prepared by them should reflect all the information needed to comply with current reporting standards and clearly stated conclusions.

The information handled by accountants in the field of management accounting are owned entity being treated as confidential. In most cases, the reports analyzed directly affect the profitability of the entity and the flow of such information can give opponents a competitive advantage lacks fairness.

Integrity requires impartiality. Management accounting reports provided must be accurate and actual, whether test results are positive or negative impact on the entity.

Managerial accounting is responsible for all financial statements and management for the majority of non provided. It will build on them in the decision-making operation.

As shown, managerial accounting is not subject to normalization. Some structures or general accounting solutions contained in the plans are only as recommendations, guidance, have been accepted or ignored as they meet or steps to achieve the goal. Basically, management accounting does not support intervention "juridical" in an area where everything is judged strictly "economic".

Regarding normalization of managerial accounting, it is more highly debated and attract the interest of literature. He believes that "in the current Romanian accounting system harmonization with European and international accounting referential idea of normalization of managerial accounting would only complicate the current system Romanian accounting disfavoring management initiative in adopting the most profitable solutions" ⁸.

Accounting normalization is defined as "the process of harmonizing the presentation of the summaries, the accounting methods and terminology"⁹. International accounting normalization "requires both the development of rules and existence of organisms able to enunciate these rules to impose their use and punishing noncompliance"¹⁰. International accounting normalization is implemented by the International Accounting Standards Board (IASB). This body has as main activity the creation and publication of global accounting standards / financial reporting to be followed in preparing the financial statements. In each entity, normalization is achieved by creating rules and internal rules and then following their application.

Regarding regulation management accounting in our country, the Ministry of Finance issued Order 1826/2003 approving some clarifications relative measures of its organization and management. Order contains general provisions on management accounting, and various provisions on costing. According to this document, norming and normalization objectives are objectives¹¹:

- developing a chart of accounts;
- elaboration of a system of documentation;
- adoption of a method of cost calculation.

In Romania is using a general account plan containing accounting regulations harmonized with the Fourth European Economic Community, approved by the Minister of Public Finance no. 3055/2009. Created for accounting organization in double circuit - one of financial accounting and other management accounting system adopted and implemented by our country as of January 1, 1994, general account plan consists of nine classes of accounts. They shall ensure the eight classes in the leadership of the accounts, being mandatory. For managerial accounting management in general chart of accounts there is only one class, 9, "*Management accounts*". It contains ten degree synthetic accounts, the accounts divided into three groups. But "*the use of these accounts is not required, their use is optional*"¹².

⁸Cernușcă L., Gornoi B.C. (2009), *Concepts and practices of management accounting*, Economic Publishing House, Bucharest

⁹Feleagă N. (1999), *Accounting systems compared*, Vol.I, Economic Publishing House, Bucharest, p.15

¹⁰Pop A.(2004), *Regulatory approaches in accounting*, Volume Conference "Audit and accounting convergence" Synchronous Publishing, Cluj-Napoca, p.66-67

¹¹ Details of measures relating to the organization and management of management accounting approved by Order of MPF no. 1826/2003, published by the Official Gazette no. 23 of January 12, 2004

¹² According to paragraph 273, par. (3) of accounting regulations harmonized with Directive IV of the European Economic Community, approved by MFP Order no.1752 / 2005

5. Conclusions

Managerial accounting can be applied practically by using specific accounts through the development of financial accounts or accounts with its own operational and technical evidence.

To achieve its goals, *management accounting needs a proper chart of accounts*¹³. It must be drawn up by the accounting officer of the management and should meet the needs of the application of the method of calculation is chosen. According to the specified laws, symbolising and use the management accounts must be carried out in such a way that the information obtained to be flexible and to enable a wide range of options. Also, the list of accounts of management should be adapted according to the aims pursued by each entity, respectively, the determination of the costs, the determination of income and the results as a function of the activity which it generates, forecasts.

6. Bibliography

- [1] Budugan D., Georgescu I. (2006), *Cost-based decisions under uncertainty*, The scientific Annals of University "Alexandru Ioan Cuza"
- [2] Cernuşcă L., Gornoi B.C. (2009), *Concepts and practices of management accounting*, Economic Publishing House, Bucharest
- [3] Ebbeken K., Possler L., Ristea M. (2000), *Calculation and cost management*, Teora Publishing House, Bucharest
- [4] Feleagă N. (1999), *Accounting systems compared*, Vol.I, Economic Publishing House, Bucharest, p.15
- [5] Pop A.(2004), *Regulatory approaches in accounting*, Volume Conference "Audit and accounting convergence" Synchronous Publishing, Cluj-Napoca, p.66-67 6. *** The IASB conceptual accounting reporting, International Financial Reporting Standards, in 2007, Ed CECCAR Bucharest
- [6] *** Details of measures relating to the organization and management of management accounting approved by Order of MPF no. 1826/2003, published by the Official Gazette no. 23 of January 12, 2004
- [7] *** Accounting regulations harmonized with Directive IV of the European Economic Community, approved by MFP Order no.1752 / 2005

¹³ Ebbeken K., Possler L., Ristea M. (2000), *Calculation and cost management*, Teora Publishing House, Bucharest

MOBILE BUSINESS INTELLIGENCE APPLICATIONS

Marian Pompiliu Cristescu, PhD
"Lucian Blaga" University of Sibiu
marian.cristescu@ulbsibiu.ro

Ioana Andreea Bogoslov, PhD candidate
"Lucian Blaga" University of Sibiu
andreea_bogoslov@yahoo.com

Abstract:

In the paper there are presented, at a detailed level, the mobile applications, the types (standalone, network and web), their characteristics and a network-specific architecture. Also, the protocols and standards used in the device communication process are detailed, the protocols being grouped into mobile, internet, access and messaging. Attention is drawn to the features of mobile platforms and the importance of analyzing them in selecting a mobile application implementation platform.

Key words: mobile devices, business intelligence, mobile applications, communications standards.

J.E.L classifications: O31, O32

Introduction

New developments in mobile device technology have opened the way for new applications designed to run on these devices. Initially, mobile devices provided limited functionality due to reduced memory capacity, computational power and difficult interaction.

At present, the features of mobile devices can be compared to previous PC variants, as this is possible because the available memory has increased considerably, mobile processors have improved their performance, interaction has become user friendly through the touch screen option.

These features allow for the development of complex mobile applications that use the available hardware capabilities.

Mobile applications

Business Intelligence applications help managers in making decisions based on quantitative methods applied to available business data. Business Intelligence mobile applications extend this functionality to devices for use by decision-making factors. (B. Ghilic,2008).

These applications have various forms:

- *Standalone applications*; they run entirely on the mobile device and do not depend on an external entity to perform their functionality; such applications provide user independence by not having access to the network; a disadvantage is the difficulty of providing application data and lack of processing power compared to a PC or a client-server application; standalone applications are recommended for solving small-size problems or for getting a template to solve larger problems;

- *network applications* these applications have distributed components; some components are on the mobile device and others on external systems; a network application can retrieve data from a server or web service and store the results on an external system (Figure 1); data and results can also be obtained and stored by the device itself as a standalone application, with solved problems being of medium complexity;
- *web applications*; aceste aplicații doar afișează interfața pe dispozitivul mobil, toată logica aplicației are loc pe servere de aplicații externe; aplicațiile web sunt total dependente de accesul la rețea, dar complexitatea problemei rezolvate este mare, deoarece toate prelucrările sunt realizate pe mașini puternice.

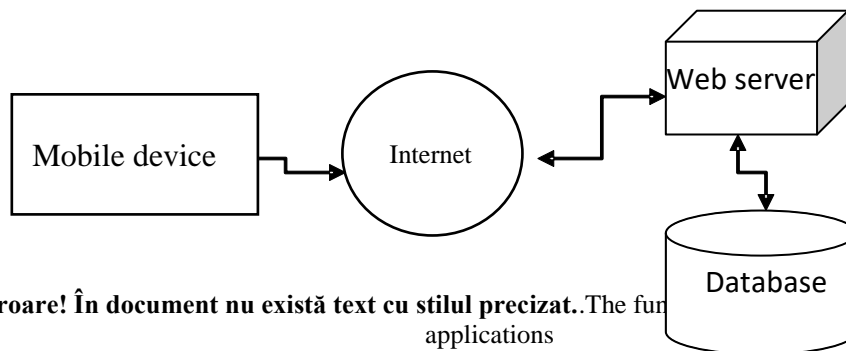


Figure Eroare! În document nu există text cu stilul precizat..The functional architecture of mobile network applications

Running mobile networking applications for business management requires the following functioning components (W. Jansen, 2017):

- Mobile device capable of running an Internet browser: Microsoft Internet Explorer Pocket Edition, Palm Web Browser Pro etc.;
- Web server like Microsoft IIS or Apache Web Server;
- Web server extension that can add new features such as scripting files ASP, ASP.NET, JSP, PHP;
- Database server to store all the necessary information for the client: Oracle, SQL Server, DB2, MySQL.

All of these elements interact with computer networks, so this type of application is the most complex because the different security aspects, divided into components, are found in different locations. In order to be able to respond at any time and anywhere to IT requirements, mobile enterprise application integration is done through a mobile business management application that has the structure outlined in Figure 2. Such an application has features relative to: the possibility of integrating heterogeneous systems running on different platforms, real-time operation, portability and distributed architecture (P. Pocatilu, 2006). This business management architecture along with the XML technology and web services used have a very important role in making mobile network applications.

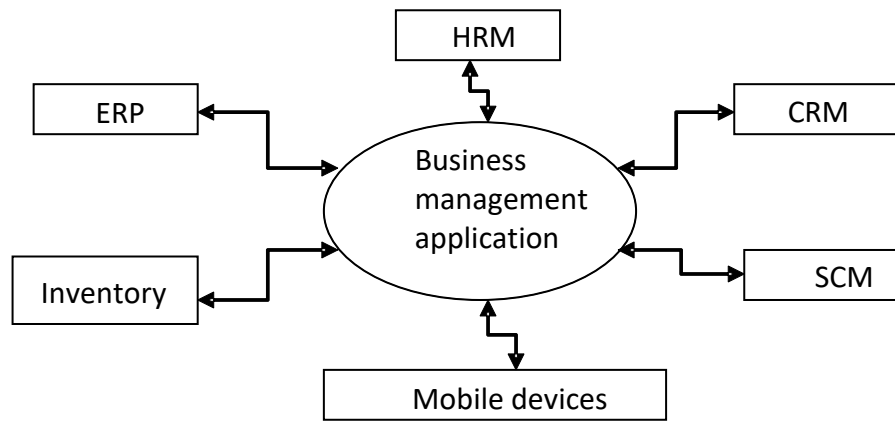


Figura 1. Application integration in the organization

Standalone applications are located at the level of the device itself using only its functionality. In their development, special kits are used to provide access to the mobile device's functionality. As a rule, mobile computing power requires many restrictions, so most software development kits offer only a subset of the features it delivers to PCs, and elements needed to access device-specific functionality are also added.

Client-server applications are made up of two components, one running on the client - the mobile device, and the second running on a server that has more computing power and takes on the execution of intensive operations.

All these types of applications require special security attention because sensitive information can be stored on the device in its memory, circulating on the network, stored and processed on external servers.

Communication protocols for mobile devices

There are many communications standards developed for mobile devices, a mobile application that can use different communication mechanisms to transfer information between devices:

- the WiMax standard (802.16 or 802.20) combines the best networks offering high bandwidth between access points;
- *IrDA* is a standard infrared interface that provides a wireless network for mobile phones or PDAs; the main technical drawbacks are the need for direct visibility between points and the fact that it is limited to point-to-point connections;
- *Advance Mobile Phone Service - AMPS* is an analog signal standard based on electromagnetic radiation that occupies the 800-900 MHz frequency band; D-AMPS is the second generation of this technology; Cellular Digital Packet Data - CDPD uses digital packets to transfer data on unused bands at speeds of up to 19.2 Kbps;
- *CDMA2000* is a Code Division Multiple Access (CDMA) version of the IMT-2000 standard developed by the ITU (International Telecommunication Union), the data transfer speed being between 144 Kbps and 2 Mbps;
- *DataTac* as well as *Mobitex* are wireless standards using the 800 MHz bandwidth;
- *Enhanced Data GSM Environment - EDGE* is a faster version of the GSM service, being built on the standard structure using Time Division Multiple Access - TDMA and existing cellular network (provides data transfers up to 384 Kbps);

- *Evolution Data Maximized - EVDO* is based on CDMA2000 with a data transfer rate between 400 Kbps and 2 Mbps;
- *Nordic Mobile Telephone - NMT* is an analog technology standard;
- *Personal Digital Cellular - PDC* is a TDMA-based standard used in Japan with a bandwidth between 800 MHz and 1.5 GHz;
- *WCDMA* is derived from CDMA and supports file transfer, data, and video on local networks with a downlink speed of up to 2 Mbps or on external networks up to 384 Kbps. Protocols are used to structure data on the transport environment, grouped into: mobile protocols, Internet protocols, access protocols, and messaging protocols. Mobile protocols used on a large scale are:

- *Wireless Application Protocol - WAP* is described as the de facto standard for the presentation and dissemination of wireless and mobile data;
- *Global System for Mobile - GSM* is a mobile digital system that uses a TDMA variant and is the most used of the three wireless technologies (TDMA, GSM, CDMA). It compresses the data and then sends a channel to the rest of the data streams, each in a different position operating on one of the 900, 1800 and 1900 MHz frequencies;
- *General Packet Radio Services – GPRS* is a service-based wireless communications network transmitted through complementary GSM services such as cellular and SMS channels with a transfer rate of at least 114 Kbps;
- *Universal Mobile Communication System - UMCS*;
- *Code Division Multiple Access - CDMA* is a wireless transmission method in which the message is encoded using a pseudo-random sequence, which corresponds to another communication channel associated with the receiver; this protocol is used to decode the received signal;
- *Mobile Application Part – MAP* is a protocol that allows real-time communication at the level of a mobile network; this protocol is used to transfer VLR (Visitor Location Register) position information to the Home Location Register (HLR); Unstructured Supplementary Services Data – USSD allows for transparent communication between MS (Mobile Station) and PLMN (Public Land Mobile Network);

- *Short Message Service - SMS* is a service that allows short messages between Short Message Entity and EMS (Enhanced Messaging Service);

- *Short Message Peer to Peer - SMPP* is a protocol for sending short messages between the SMS Center and the SMS application;

- *Transaction Capability Application Part (TCAP)* is a type of protocol used to send queries to and retrieve a database;

- *The TCP / IP* protocol consists of several protocols organized on two levels; Internet Protocol Control Protocol (ICMP) and Transmission Control Protocol (TCP) and UDP (User Datagram Protocol); TCP provides connection-oriented packets using sequence numbers to coordinate transmissions; FTP services, Telnet, HTTP and HTTP SMTP messages, each service has a port (the logical endpoint of a connection); IP protocol is responsible for getting a number, IP network;

The most popular protocols for infrared communication are as follows:

- *Access Protocol Link - IrLAP* provides data transfer;
- *Protocol Link Management - IrLMP* provides multisession support, enabling customers to use an IrLAP and IAS (Information Access Service);
- *Infrared Object Exchange - IrOBEX* is used to interchange data via infrared;
- *Infrared Communications - IrCOMM* emulates both parallel and serial ports being used by new applications;

- *Infrared Local Area Network - IrLAN* allows an infrared device to connect to the network.

The most important Bluetooth protocols are the following:

- *Link Manager Protocol - LMP* manages the behavior of wireless links, controls bandwidth and addresses security issues;

- *Logical Link Control and Adaptation Protocol - L2CAP* connects the band and the previous protocol by supporting segmentation and reassembly of data;

- *Radio Frequency Communications - RFCOMM* provides RS-232 port emulation for the L2CAP protocol;

- *Service Discovery Protocol - SDP* allows the device to discover other Bluetooth devices.

Features of Mobile Applications

When deciding how to build a mobile application, it is important to consider the features and goals it has to meet, as they play a major role in selecting the deployment platform and application type.

Native mobile applications provide access to all device functionality, while web applications, depending on the development method you choose, do not allow all platforms to do so, or have delays in processing orders.

A reliable example is the capture of the electronic signature implemented in the native applications on each platform and web, where there are major differences and the native variant is chosen.

At each mobile platform considered, IOS, Android, and Windows, there are limitations that determine the selection of a particular platform in mobile app implementation (I. Ivan, 2010).

These limitations are determined by the ease with which the system resources, features offered (such as NFC and QR code support), the known development language, accessibility, a developer account for each platform (from this point of view, at least at Windows Phone level, there was no support for our country, but there are third entities through which applications can be developed).

The specific features of mobile devices running on these platforms are also detailed in (P. Pocatilu, 2006), the author also presenting practical ways to implement these applications, such as event handling, data storage and network access.

The Windows Phone 7 platform is based on Windows CE 6.0 and unlike previous versions of Windows Mobile, it does not allow an application to access another application's space. Each mobile app has an Isolated Storage in which data is stored on the disk.

According to (M. Mircea, 2012), when using business intelligence mobile applications, the user access sensitive data inside his or her organization.

Also, the results obtained in the form of reports are sensitive information that needs to be protected. In this scenario, security becomes an important aspect that needs to be considered. Each type of mobile applications with special features, security is implemented in specific ways.

Conclusions

Ensuring the quality of mobile applications is an important step to be taken to implement a quality component.

The quality of the application is ensured by: identifying mobile application features, setting target levels for them, measuring and calculating software metrics for them, and making decisions to correct deviations from set levels.

Quality features are influenced by various factors, such as the complexity of the application. To determine the level of difficulty of the application, use the complexity feature, calculated by different models McCabe, Halstead and indicators (I. Ivan, 2000). Between this feature and reliability there is a

dependency, if the complexity of the mobile application increases, it lowers the application's reliability level.

References:

- [1] I. Ivan, D. Cazan, P. Pocatilu, (2000) "Evaluarea performantei sistemelor informatice", Revista Informatica Economica, No. 3 (15), 2000, București;
- [2] I. Ivan, A. Vișoiu, S. Trif, B. Vintilă, D. Palaghiță, (2010), *The Security of the Mobile Citizen Oriented Applications*, vol. 10, nr. 1, pg. 22-33, ISSN 1582-7941, Economy Informatics, 2010, București;
- [3] W. Jansen, R. Daniellou, and N. Cilleros, (2017) „Fingerprint Identification and Mobile Handheld Devices: An Overview and Implementation”, National Institutes of Standard and Technology, Created March 01, 2006, Updated February 19, 2017, U.S. Department of Commerce, Gaithersburg, MD, U.S.A.;
- [4] B. Ghilic, M. Stoica, M. Mircea, (2008), *How to Succeed in Business Intelligence Initiative: A Case Study for Acquisitions in Romania Public Institutions*, WSEAS TRANSACTIONS on BUSINESS and ECONOMICS, Nr. 6, Vol.5/2008, ISSN: 1109-9526, pag. 298-309, 2008, București;
- [5] M. Mircea, (2012) "Business Intelligence Solution for Bussiness Development", [Computer and Information Science - Numerical Analysis and Scientific Computing](#), ISBN 978-953-51-0019-5, pag. 1 – 107, 2012, INTECH – Open science-Open minds, Management, London - United Kingdom, Administrative Office - Rijeka, Croatia - European Union;
- [6] P. Pocatilu, (2006) "Influencing factors of mobile application's quality metrics", Economy Informatics, No. 1-4., 2006, București;

THE IMPACT OF TERRORISM ON EQUITY RETURNS: EVIDENCE FROM THE NIGERIAN STOCK MARKET

Hassan O. Ozekhome
Department of Economics and Statistics,
University of Benin, P.M.B 1154, Benin City.
Nigeria.
E-mail: hassanozeks1@gmail.com

Abstract: *This paper empirically examines the impact of terrorism on stock market returns in Nigeria. This is examined over the period, 1997-2015. Employing a dynamic system-GMM estimation technique, the findings show that terrorism has a significant negative effect on equity returns in Nigeria. In particular, the results, using Nigerian data, show that terrorism has a destabilizing effect on stock market performance, and hence, equity returns. The other variables- openness of the economy to financial flows has a positive and significant effect on stock market returns. Government effectiveness combined with other institutional variables to measure institutional quality and the infrastructure variables have positive but weak impacts on stock market performance in Nigeria perceivably due to the weak institutional capacity and infrastructure development in Nigeria. Inflation rate (a measure of macroeconomic policy environment) on the other hand is found to have a destabilizing effect on equity returns in Nigeria. We recommend amongst others, sound institutional framework with the capacity to restrain terrorism and other forms of insurgencies and violent conflicts, open investment policies, and coherent macroeconomic policies in order to enhance stock market performance in Nigeria.*

Keywords: *Terrorism, Equity returns, Institutional structures, System-GMM, Nigeria*

1. Introduction

It is well established in the development literature that investment and stock market can only thrive in an environment devoid of armed and violent conflicts, particularly terrorism.

A budding number of literatures posit that enhanced investment and equity returns can only be guaranteed in a stable environment supported with strong institutional framework to combat or restrain violence and conflicts (Acemoglu, Johnson & Robinson, 2002). Development economists Jensen (2003); Glaeser, et al, 2004 have found that sustained growth cannot take place under political and economic uncertainty but only in an atmosphere of certainty, stability and right institutional framework. In particular, recent evidence (see Bilson, Brailsford, Hallet & Shi, 2014) have shown that equity market perform better in a stable social, political and economic environment. Unfortunately, in the case of Nigeria, persistent wave of terrorism, particularly the onslaughts of the dissident Boko Haram militants have largely undermine investment, stock market performance and growth. The increasing wave of terrorism in Nigeria over the last decade and the intensity of the occurrence has thus become a subject of concern. The terrifying wave of terrorism in Nigeria in the past few years have had destabilizing effects on equity market, particularly assets return. The catastrophic effect of the activities of Boko Haram particularly in the Northern region of Nigeria has grounded investment and economic activities

in the region to a halt, with the effect of reducing stock market performance. A World Development Report (WIR) of the United Nations Conference on Trade and Development (UNCTAD, 2014) estimated that Nigeria has lost a about \$1billion foreign investment, owing to the devastation brought about by terrorist activities of the dissident Boko Haram.

Since investors are generally risk-averse, they invest only in environment economic stability and certainty. For instance, the fall in equity returns in the Nigerian Stock Market in recent time has been attributed to a number factors among which are poor macroeconomic policy environment, political instability, armed conflicts and insurgencies, which combines to create an environment of uncertainty, decrepit infrastructure, weak institutional capacity and a pervasive rent-seeking behaviour (Ozekhome, 2017).

There is overwhelming lack of empirical evidence on the impact of terrorism on equity returns in Nigeria, as no study has explored the negative consequences of terrorism and insurgency on stock market activities in Nigeria. Previous works on the issues addressed in this paper have been theoretical and just a handful had focused on the impact of terrorism on national development in Nigeria. None have been empirical. The only related study by Ezeoha and Ugwu (2015) focused on the impact of armed conflict on foreign direct investment in Africa. The study by Bamidele (2012) and a few others, which focused on the relationship between terrorism and national development not base on empirical evidence-findings. This work therefore represents the first critical attempt at an empirical/experimental research into the effect of terrorism on equity returns (stock market performance) in Nigeria. With this in view, the objective of this study is thus to fill the gap in literature by investigating the impact of terrorism on stock market returns in Nigeria. In addition, given the fact that no country is able to mobilize sufficient investment resources in an environment of conflict, violence and hostilities, and the recognition that the stock market is critical to the rapid economic growth of any Nigeria, it becomes important to empirically examine the nexus between terrorism and stock market returns in Nigeria. This is the motivation of this study.

Following this introduction, the paper is organized as follows. Section two consists of literature review which considers key theoretical and empirical issues associated with armed conflict and violence. Section three contains methodology, model specification and data, while section four contains the empirical results and analysis. Section five contains the conclusion and policy recommendations.

2. Literature review

Two theoretical bases for the occurrence of armed and violent conflict, in particular terrorism, are provided in this section.

Social Conflict Theory (SCT)

The tenet of this theory is that competition and struggle among social classes and state actors in their attempt to protect their selfish interest is the cause of hostility. The theory posits that class struggle leads to acquisition of weapons and ammunitions for self-preservation necessitating armed and violent struggle Max and Engel (1848). Another version of the social conflict theory states that social structures (such as political institutions, economic organs, legal Institutions etc.) are created in every society through conflict between groups with conflicting ideological interest and diverse means of control over state resources. Individual and resources in turn are influenced by these structures and by the unequal distribution of power and resources in the society (Knapp, 1994). Both versions of the social conflict theory explain armed conflict as motivated by struggle among rival social classes or extreme ideological or religious beliefs. If these dysfunctional relations are not redressed it results in arm struggle and full scale terrorism.

Frustration Aggression Theory

The Frustration Aggression Theory posits that the occurrence of aggressive behavior always presupposes the existence of frustration. In another way, frustration is an antecedent to aggression. The existence of frustration often leads to some form of aggression which induces violence. Frustration produces a number of different types of response, one of which is instigation of some form of aggression and violent hostility, which magnifies into terrorism. In the context of this study, the destructive militant activities of the Boko Haram fundamentalist Religious sect in Northern Nigeria could be attributed to either frustration or as a result of extreme religious fundamentalism or ideological belief. In the same vein, the prolonged marginalization and economic deprivation of many Nigerians in the face of plenty by a mindless, corrupt, greedy and powerful political and rent-seeking class that has subject the majority to dehumanizing conditions is a case in this point. Nigeria is today plagued with social disorder, insecurity, weak infrastructural base, poverty, illiteracy, chronic balance of payment deficits, poor health statistics, ethnic and religious conflicts, corruption, crime and criminality and political crises and all these implies that we are unsecured in terms of human beings (UNDP, 2012) If these issues are not addressed, it could magnify and develop into full domestic terrorism.

Review of Empirical Studies

A number of empirical studies have examined the impact of insurgency on business and investment in developing countries. A more conventional emphasis in this direction has been on the broad impact of terrorism on the domestic economies of these economies (Nitsch and Schumacher, 2004; Gailbulloev and Sander, 2011; Zimmermann, 2011; Bilson et al. 2012, Zimmermann, 2011, among others). We examine some of these studies.

Li and Vashchilko (2010) examine the relationship between armed conflict and foreign direct investment. Their results show that that military conflict due to terrorist insurgency has the propensity of discouraging bilateral investments. The sectoral impact of terrorism has also received empirical attention. Some examples include the study on the impact of terrorism on the tourism industry (Drakos & Kutun, 2003; Bilson et al, 2012), the agricultural sector (Singh, 2012), discriminate impact on mineral and non-mineral resources (Ashby and Ramos, 2013), bilateral trade (Oetzel, Getz & Ledk, 2007; Nich & Schumacher, 2004), as well as the relationship between terrorism and FDI (Bandyopadhyay, Sandler, & Yuonas, 2014; Ezeoha & Ugwu, 2015).

In particular, Drakos and Kutun, (2003) using evidence from Mediterranean countries-Greece, Israel and Turkey show how the intensity of terrorist attacks could have directly and indirectly undermine FDI indirectly by incremental transaction costs such as advertising expenses new or more tourists, reconstruction cost for damaged tourist facilities and security enforcement and military coordinated strategies to lessen terrorist attacks.

Gailbulloev and Sander (2011) use a sample of 51 African countries for the period 1970-2007, and a fixed- effect panel estimation technique to examine the negative effects of domestic and transnational terrorism on growth. The empirical results show that whereas transnational terrorism had a significant negative effect on growth, domestic terrorism did not. The study by Zimmermann (2011) also confirmed the negative impact of terrorism on capital market performance and globalization.

Bilson et al. (2012) examine the impact of terrorism on global equity market integration. The findings show that terrorism has a reducing effect on capital market integration and internationalization. Bandyopadhyay et al. (2013) using evidence from 78 developing countries for the period 1984-2008, find that both domestic terrorism and transnational terrorism have adverse impact on investment and equity markets.

Bamidele, (2012) investigate the link between national peace, security and sustainable development in Nigeria. In particular, the author examined the catastrophic effect of Boko haram terrorist activities on national development using both explanatory and descriptive approach.. He found that the activities of the insurgent boko haram have contributed in no small measure in slowing the development process in Nigeria. Against this backdrop, the authors therefore recommend effective and preventive strategies capable of diminishing the probabilities of their emergence and crystallization of the terrorist group in Nigeria.

Osarumwense (2014) examines the impact of terrorism on national development in Nigeria. Employing descriptive statistics through questionnaire survey, the results reveal that the terrorism, particularly the Boko Haram insurgency has had a destabilizing effect on business, and stock market activities in Nigeria.

Ezeoha and Ugwu (2015) working on a sample of 41 African countries over the period 1997-2012, examine the interactive impact of armed conflicts on investment in Africa. Employing the recent dynamic system GMM technique, the empirical results show that conflict has a significant destabilizing effect on FDI. The findings of the study also show that the impact of the conflict is higher in resource-rich countries and that the impact is both regional and seasonally-sensitive.

Boko Haram Phenomenon in Nigeria

Of all the various forms of armed conflicts and insurgency in Nigeria, the most dreaded, catastrophic, dehumanizing, dastardly and devastating so far is the Boko Haram, otherwise known as (Jam'atu Alissunah Lidda'awati wal-Jihad). The group which sees western education as a sin has the objective to Islamize the Northern part of the country. The major cause of the Boko haram insurgency can be attributed to the youth bulge in the region resulting from mass birth without corresponding care, training and human capital development. This has given rise to Al-Magiri syndrome. It can therefore be said that youth bulges and unemployment have contributed in no small measure to the insecurity problem in Nigeria (Orji, 2012).

Some have described the activities of the militant group as class warfare but its operation does not suggest that, considering its high level of terrorism, informed by a type of Islamist orientation and ideology. What initially began as a local initiative by a rag-tag religious militia has now developed into an actual declaration of war on the State, and Christians alike. Beginning from 2009 when the leader of the sect, Mohammed Yusuf Abubakar was killed by the Nigerian police, the group has declared a full scale war on those that are opposed to its ideology. A United Nations Organization report in 2015 has it that the sect has killed about 600,000 people and rendered over 1.5 million homeless. The dissident group has not only killed and rendered millions homeless, but has also wantonly destroyed critical infrastructure, investments opportunities and foreign direct investment inflow in Nigeria. Security details reveal that tactical sophistication with which Boko haram has been carrying out their task can only be explained by sophisticated technology and communication gadget linked to Al-Queada in the Islamic Maghreb (Aqim) terrorist group. Boko haram use of large bombs is an indication that the dissident group is linked to or receiving training from Aqim . The activities of the terrorists group can be best be explained my multiplicity of factors and complex interwoven issues (Ozekhome, 2017).

3. Methodology

Model Specification

The model used in this study is a modification of the model used previously by (Ezeoha and Ugwu, 2015), because of the need to model the terrorism –equity return nexus in the context of Nigeria, alongside other potential determinants of stock market returns (equity returns) in line with the literature. In empirical specification, the systematic relationship between terrorism and stock market return

(proxied by the Nigerian All Share Index-ASI) is captured in the stylized terrorism- All Share index function.

$$ASI = \alpha_0 + \alpha_1 ASI_{t-1} + TERR + \beta X + \varepsilon_t \dots \dots \dots (1)$$

Where ASI = All Share index (a measure of overall equity returns/performance), ASI_{t-1} is one year-lagged ASI, which relates current equity returns in the Nigerian Stock Market to past equity returns. It thus control for initial conditions that may stimulate further improvement in equity returns.

TERR is intensity of terrorist attacks; and X is a vector of other variables, which according to the literature, influence stock market returns. The inclusion of these variables is to include, as much as possible other critical variables that impact on the assumed relationship, and thus avoid omitted variable bias. These variables include; inflation (INF)-measured as percentage change in consumer price index; The inclusion of inflation in particular is consistent with most equity returns equations by previous studies and is aimed at capturing the impact of macroeconomic environment and on equity returns, infrastructure (INFR) –as a proxy for this variable, we used the number of telephone mainlines and mobile subscribers per 1000. Physical infrastructure is regarded by foreign companies as important prerequisites for stock market performance and a critical intermediary variable in the conflict-equity return nexus. In particular, ICT infrastructure is a critical variable integrating local producers into international technological and communication network, thereby enhancing stock performance. Financial openness of the domestic economy (FOPN) is measured sum of foreign direct investment, portfolio equity and other inflows to GDP percent. Obadan and Ozekhome (2015) have shown that more financially open economies received more capital inflow, particularly portfolio capital inflows which is more akin to the stock market; INST represents institutional variable- which measures the quality of existing institutional structures proxied by government effectiveness. Institutional quality is measured by averaging the six indicators of institutional quality proposed by Kaufmann et al (2010) to include accountability, political stability; government effectiveness, regulatory quality, rule of law and control of corruption. Government effectiveness measures critical aspects of quality and availability of public service, the bureaucracy, the independence of the administration of political pressure and the credibility and transparency of the government's reform commitments and policies.

On the inclusion of these variables, the empirical specification of the model to be estimated is therefore:

$$ASI = \alpha_0 + \alpha_1 ASI_{t-1} + \alpha_2 TERR + \alpha_3 FOPN + \alpha_4 INFR + \dots (3)$$

The a priori expectations are $(\alpha_1, \alpha_3, \alpha_4, \alpha_5) > 0$; $(\alpha_2, \alpha_6) < 0$.

$\alpha_0 - \alpha_7$ are parameters to be estimated and ε_t is the unobserved error term.

Estimation Technique and Data Sources

To the extent that ASI and TERR are likely to be contemporaneously correlated and some of the explanatory variable are correlated with the error term, ε_t , and are endogenous to ASI, the least squares estimates of are likely to be biased and inconsistent. As a result, we use the generalized method of moments (GMM), which overcomes the problem of joint endogeneity in the estimation and, thus control for the potential biases resulting from simultaneous or reverse causation. The GMM technique allows us to address the triple-problem of endogeneity bias of the regressors, the measurement error and omitted variables by using the lagged values (in level and first difference as instrumental variables).

Data used in this empirical analysis are annual time series data covering the period 1997 to 2015. All the data (except terrorism (intensity of terrorist attack and institutional development variable, which measures the quality of institutional structures) are sourced from the CBN Statistical Bulletin. The conflict data is obtained from the Armed Conflict Location and Event Data Project Data base (ACLED) Code book 3 and the institutional variable is obtained from the World Governance Indicators of the World Bank, and all data in this study are in log form.

4. Empirical Results and Analysis

In the empirical analysis, the initial characterization of the variables used in the regression analysis using descriptive statistics is first performed before the model estimation using GMM estimation approach. The summary statistics are presented in Table 1 below.

Descriptive Statistics.

Table 1 presents the descriptive statistics of the sample data on the variables used for the analysis. The descriptive statistics shows that the average growth rate of ASI over the period is 8.70 percent, with a median value of 7.82 percent. The maximum growth rate of 56.2 percent and a minimum value of -2.20 percent, gives clear indications that the growth rate of equity returns growth rate has moved rather apart during the period of the study. This wide dispersion is confirmed by the relatively high standard deviation value for the variable which is 4.65 percent. Apparently, stock market performance has generally been unstable in the country of the years, assuming an oscillatory pattern. This is not unconnected with the poor macroeconomic environment and weak institutional framework, characterizing a environment of insurgency and violent conflicts, particularly terrorism. The mean value of conflict intensity- a proxy for terrorism is 965, with a median value of 950. Its maximum and minimum values are 7430 and 0 respectively, while its standard deviation is 3835.2. Invariably, terrorism occurs with terrific frequency in Nigeria. Financial openness variable has a mean value of 22.3 percent and a median value of 22.8 percent. It shows that the domestic economy is open to capital inflows. Inflation has a mean value of 12.20 percent growth rate and a median value of 12.25, an indication it has been characterized by differential growth rate, with the rate of growth exceeding the observed average over the period of study. The maximum and minimum values are 18.9 percent and 6.6 percent respectively. Its standard deviation of 5.2 percent combine with a kurtosis value of -2.53 is a clear indication of inflation variability over the period of study. Infrastructure (proxied by information communication technology) has a men value of 54.21; median value of 49.98 percent, and a standard deviation value of 4.70 percent. Institutional quality has a mean value of -0.76, with a median value of -0.70. The maximum and minimum values are 0.86 percent and -0.17 percent, respectively. The value indicates that the growth rate of institutional development has been characterized by marked disparity and weak institutional structures in Nigeria. The Jarque Bera value of ASI is 15.05, and is significant at the 1 percent level, indicating that the hypothesis of normality in the distribution cannot be accepted. This implies that the data series may have endogeneity issues. This therefore necessitates adoption of a dynamic GMM estimator which is capable of controlling the joint endogeneity effect of most of the explanatory variables with ASI and, thus to control for the biases resulting from simultaneous or reverse causation.

Table.1. Descriptive Statistics

	<i>Mean</i>	<i>Median</i>	<i>Max.</i>	<i>Min.</i>	<i>Std. Dev.</i>	<i>Skew</i>	<i>Kurt.</i>	<i>J-B</i>
ASI	8.70	7.82	156.2	-2.20	4.65	3.22	4.22	15.05
TERR	965	950	7430	0	3531	3835	4.7	14.50
FOPN	22.3	22.8	25.14	-0.05	3.76	3.80	2.10	4.26
INFR	54.21	49.98	87.3	15..40	4.70	1.71	2.60	3.12
INST	-0.76	-0.70	0.86	-0.17	0.55	-1.28	-1.94	7.21
INF	12.20	12.25	18.87	6.62	5.20	-1.78	-1.85	9.50

Source: Author's computation (2017)

Analysis of Generalized Method of Moments (GMM) results

The result of the Generalized Method of Moment (GMM) is presented in table 2 below and subsequently analyzed

Table 2. Arellano-Bover System-GMM Estimate
Dependent Variable: ASI

Variables	Estimated Coefficients	t-statistics
C	0.057	1.453
Lagged ASI	0.051	1.240***
TERR	-0.145	-3.112**
FOPN	0.203	2.202**
INFR	0.373	1.803**
INST	0.041	1.422*
INF	-0.241	-2.370**

*** Statistical significance at the 1% level

** Statistical significance at the 5 % level

* Statistical significance at the 10% level

Source: Author's computation (2017).

In the results, the coefficient of lagged ASI is positive but not significant at the 5 percent level. This implies that current equity returns are independent of the previous returns, and as such, the current or future rates of returns are independent of past rates of return. In the same vein, it implies that previous rates of equity returns do not necessarily explain current equity prices. This is a clear attestation of the existence of a random walk (weak form of efficiency)-which tenaciously holds that prices of traded securities already reflect all past publicly available information, thus, it is impossible for investors to earn any abnormal return by using past information on stock prices. Since all the data are in log form, the coefficients are elasticities. Accordingly, a 10 percent increase in previous equity returns will enhance current equity return by 0.05 percent. The coefficient of the variable of prime interest-the intensity of armed conflict (proxy for terrorism) is appropriately negative in line with theoretical expectation and significant at the 1 percent level. This implies that terrorism has an outright and highly destabilizing equity returns in the Nigerian stock market. In particular terrorism discourages foreign investment inflows, particularly portfolio equity into the stock market, reduces economic activities, weakens the capacity of existing infrastructure and consequently reduces equity returns. In the same vein, the uncertainty it creates in the investment environment contributes to reducing equity returns in the stock market. This finding is in line with the findings of Zimmermann, (2011), Bilson et al, (2012) and Bandyopadhyay et al (2014)). This result also provides explanation to the falling stock market activities in Nigeria since the Boko Haram catastrophe. The coefficient of inflation is negative in line with apriori expectation and significant at the 5 percent level. This implies that high inflation rate reduces the return on equity on account of economic instability and uncertainty syndrome. Through its eroding effect, high inflation rate reduces the expected return on financial assets and thus diminishes the incentive for further investment in stocks. The result corroborates the findings of Mijiyawa (2015). In line with the estimate, a 10 percent rise in inflation rate will reduce financial assets return by 2.4 percent. The coefficient of financial openness is consistent with theoretical expectation and significant at the 5 percent level. The result corroborates earlier empirical findings by Azienman and Noy (2006), and Ayanwu (2012 that an open economy is able to attract greater foreign investment inflow. In similar vein, it conforms to the position of Law and Habibullah (2009) that an open economy is able to provide insulation and control against the abuse of political class and extractive behaviours and promote competitive behavior. In line with the estimates, a 10 percent increase in financial openness will lead to a rise in equity returns by 2.2 percent. Infrastructure (proxied by communication infrastructure technology) has the expected positive sign but is not statistically significant at the 5 percent level. This could be due to the low level of infrastructural development in Nigeria (Ozekhome, 2017). Infrastructure

is critical in integrating local producers and investors into international technological and communication networks, and in attracting vertical investment into the stock market (Addison and Heshmati, 2003). Since the t-value of its coefficient is greater than unity, we may infer that infrastructural development facilitates stock market transactions, and is necessary for stock market to operate successfully. This in turn, stimulates equity returns. The coefficient of institution is positive in line with apriori expectation and significant at the 10 percent level. This implies that institutional framework and capacity needs to be strengthened in Nigeria. Strong institutional framework, particularly, government effectiveness is important in enhancing stock market performance. Essentially, an effective government is able to provide and sustain quality of public service delivery, immunize the economy from political pressures, restrain socio-political violence and hostilities, and all forms of insurgencies, enhance the quality of policy formulation and implementation and enhance the credibility of the government's commitment to such policies (World Governance Indicators, 2014, cited in Ezeoha and Ugwu, 2015).

5. Conclusion

This paper has empirically examined the impact of terrorism on equity returns in Nigeria. The empirical results from the dynamic system-GMM estimation provides strong evidence that terrorism has an outright destabilizing effect on financial assets returns in Nigeria, as it creates an environment of uncertainty and diminishes the incentive to invest in the stock market. In addition, increase intensity of terrorism and insurgencies weakens the existing infrastructure and institutional capacity, which combines to reduce equity performance.

Considering the significance of the variable of interest, it is necessary for the government to create a stable economic and investment friendly environment through the restraint and curtailment of incidences of terrorism and other insurgencies and armed conflicts, particularly in the Northern part of Nigeria, where such has had enormous and unquantifiable adverse effects on businesses and investment. In addition, government should embark on the rebuilding of infrastructure that are critical to the operations of the stock market and the economy, which have been destroyed owing terrorists and other violent attacks. Very importantly, a strong institutional framework to resist and restrain acts and incidences of terrorism and other armed conflicts and insurgencies is critical. Supporting macroeconomic policies, particularly with respect to low inflation rate and policies regarding openness of the economy to foreign capital and investments resources that can augment resource-constraints also need to be put in place to steer the performance of the stock market in order to enhance equity returns in Nigeria.

References

- [1] Acemoglu D., S. Johnson & J.A. Robinson (2002). Reversal of fortune: geography and institutions in the making of the modern world income distribution. *Quarterly Journal of Economics* 117 (4), 1231-1294.
- [2] Addison, T and Heshmati, A. (2003). The new global determinants of FDI flows to developing countries: The importance of ICT and democratization. WIDER Discussion Paper N0. 45.
- [3] Ayanwu, J. C. (2012). Regional comparison of foreign direct investment to Africa: Empirical Analysis *African Development Review*, 27(4), 345-363.
- [4] Ayanwu, J. C. (2012). Why does foreign direct investment go where it goes? New evidence from African countries. *Annals of Economics and Finance* 13(2) 433-70.
- [5] Bamidele, O. (2012) Boko Haram catastrophic terrorism: An Albatross to national peace security and sustainable development in Nigeria. *Journal of Sustainable Development in Africa*, 14 (1).

- [6] Banhyopadhyay, S., Sander, T., & Younas, J. (2014). Foreign direct investment, aid and terrorism'. *Oxford Economic Papers*, 66(1), 25-50.
- [7] Bilson, C., Brailsford, T., Harlett, A. & Shi, J. (2012). The impact of terrorism on global equity market integration'. *Australian Journal of Management*, 37, 47.
- [8] Drakos, K. & Kutan, A. (2003). Regional effects of terrorism on tourism in three Mediterranean countries. *Journal of Conflict Resolution*, 47, 621-41.
- [9] Ezeoha, A.E. & Ugwu, J.O. (2015). Interactive impact of armed conflict on foreign direct investments in Africa. *African Development Review*, 27(4), 456-468.
- [10] Gaibulloev, K. & Sandler, T. (2011). The adverse effect of transnational and domestic terrorism on growth in Africa.. *Journal of Peace Research*, 48(3) 355-71.
- [11] Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2004). 'Do institutions cause growth?' *Journal of Economic Growth*, 9, 271-303. *Journal*, 4(1), 146-156.
- [12] Knapp, P. (1994). One world- many worlds: Contemporary sociological theory (2nd Ed). HarperCollins College Division-Online summary ISBN 978-0-06-501218-7.
- [13] Law, S.H. and Habibullah, M.S. (2009). The determinants of financial development: Institutions, openness and financial liberalization. *South African Journal of Economics*, 77(1), 45-58.
- [14] Li, Q & Vascchilko, T. (2010). Dyadic military conflict, security alliances and bilateral FDI flows. *Journal of International Business Studies*, 41, 765-782.
- [15] Marx, K. & Engels, F. (1848). The communist manifesto, introduction by Martin Malia New York. Penguin Group.
- [16] Mijiyawa, A.G. (2015). What drives foreign direct investment in Africa? An empirical investigation with panel data. *African Development Review*, 27(4), 392-402.
- [17] Nitsch, V. & Schumacher, D. (2004). Terrorism and international trade : An empirical investigation. *European Journal of Political Economy*, 20, 432-33.
- [18] Obadan, M. I. and Ozekhome, H.O. (2016). Does international Financial integration cause exchange rate volatility: Empirical evidence from Nigeria. *West African Journal of Monetary and Economic Integration*, 16 (1), 24-50, June.
- [19] Oetzel, J.K., Getz, A. & Ledk, S. (2007). The role of multinational enterprises in responding to violent conflict: A conceptual model and framework for research. *American Business Law Journal*, 44, 331-58.
- [20] Oriji, K. E. (2012). National security and sustainable development in Nigeria: Challenges from the Niger Delta. *An Internal Multi –Disciplinary Journal, Ethiopia* 6 (1), 198-211.
- [21] Osarumwense, I.L. (2014). Security and national development in Nigeria: A theoretical and empirical perspective. Master's thesis for the award of MSc degree in Public Administration, University of Benin, Nigeria.
- [22] Ozekhome, H.O. (2017). Impact of armed conflict on foreign direct investment: Empirical evidence from Nigeria (Forthcoming).
- [23] Ozekhome, H.O. (2017). Does democratic institutions and foreign direct investment affect economic growth? Empirical evidence from Nigeria (Forth-coming).
- [24] Quazi, R.M. (2007). Investment climate and foreign direct investment: A study of selected countries in Latin America. *Global Journal of Business Research*, 1(2), 1-13.
- [25] Singh, P. (2012). Insurgency, crime and agricultural labour expenditure: Evidence from Punjab, 1978-1990. *The Economics of Peace and Security Journal*, 2(2).
- [26] Wallensteeen, P.A & Sollenberg, M. (2001). Armed conflict. 1989-2000. *Journal of Peace Research*, 38, 5.
- [27] Zimmermann, E. (2011). Globalization and terrorism. *European Journal of Political Economy*, 27, 5152-61.

PROGRAMS FOR MONITORING INTRA-COMMUNITY AQUISITION AND DELIVERY IN ORDER TO REDUCE TAX EVASION

Geraldina Terezia Vajda, PhD Student
“December 1st, 1918” University of Alba Iulia
av.vajda.geraldina@gmail.com

Abstract: *In recent years, the problems posed by fraud and tax evasion have worsened considerably, becoming a subject of major concern to the European Union and around the world. Billions of Euros are lost. By reducing fraud and tax evasion, Member States could increase tax revenues, which would also provide greater leeway to restructure their tax systems in such a way as to encourage growth. In addition, given the scale of the challenge, strengthening the fight against fraud and tax evasion is not only a question of income, but also of fairness. Especially in these tough times from economical point of view, honest taxpayers should not have to bear additional tax increases to compensate for the loss of income caused by those who commit fraud and tax evasion.*

Keywords: *tax evasion, tax fraud, VAT, income tax, competition, Intrastat*

JEL Classification: F38, H26

1. Introduction

For years, the European Union (EU) engages actively in solving these problems, in particular through the adoption of specific legal instruments to implement automatic exchange of information (“AEOI” – *automatic exchange of information*) within the Union. The EU Directive on savings ensures the AEOI in respect of interest income, and a proposal for extending the scope of its application is currently being discussed within the Council.

The Directive on administrative cooperation shall ensure that as from 2015, Member States shall automatically share information, as soon as they become available, with regard to the five categories of income and capital: professional income, bonuses for leaders, life insurance products which are not covered by other directives, pensions, as well as to the ownership of real estate and income from immovable property. On December 6th, 2012, the Commission presented an action plan in order to reinforce the fight against fraud and tax evasion¹⁴. The action plan highlights the need to promote the AEOI as a European and international standard in terms of transparency and information exchange in tax matters. On May 14th, 2013, the ECOFIN Council adopted conclusions in which it welcomes the efforts of the Commission to elaborate measures aimed at combating fraud and tax evasion, as well as aggressive tax planning and recognizes the useful role that the Commission’s action plan for it can play

¹⁴ COM(2012)722 final

in this regard¹⁵. On April 9th, 2013, France, Germany, United Kingdom, Italy and Spain have announced plans for a pilot action concerning the AEOI, based on FATCA model agreed with US. In addition, these Member States have asked Europe to take a leading role in promoting the AEOI in the world and expressed their wish to discuss how progress could be made within the EU with regard to improving the exchange of tax information between all Member States. Timely adoption and implementation are essential to achieve benefits as soon as possible. In order to ensure coherence with the deadline for implementation of the AEOI's to income and capital categories already covered by the Directive on administrative cooperation, the proposed deadlines for transposition and application of the new rules are December 31st, 2014 and January 1st, 2015.

2. Determining factors and risk of intra-Community fraud

The important volume of trade conducted between the Community countries hides a significant potential for fraud of charges and taxes arising from commercial transactions, in particular in the field of VAT. In addition to the impact on tax revenues of the State, the escapist phenomenon in this field distorts fair competition, with the effect of eliminating honest taxpayers. The assertion rests on both the information resulting from the inspections carried out by the specialized bodies and from the signals received from the similar structures in the Community's countries. A particularly worrying aspect is also the formation of criminal groups, well organized, controlling criminal systems that include certain areas of activity. The determining external factors of fraud risk are: heterogeneity of Community countries' legislative systems and lack of standardization of documents accompanying transports, etc.

Intrastat statistical system is based largely on fiscal data. These are the data VAT and VIES that does not have to be identical because the methodologies applied to these kinds of statements are different. VAT return statement and summary statement regarding intra-Community goods deliveries / acquisitions (form 390-VIES) contain very important information for Intrastat statistical system.

Data of economic operators under an obligation to provide statistical information are verified on the basis of the values of intra-Community trade declared in VAT statements and summary statements relating to intra-Community goods deliveries/acquisitions (form 390-VIES) submitted to the Ministry of Public Finance (MPF).

The public institutions (hospitals, schools, religious institutions, etc.) making special VAT return statement and purchase goods from other EU Member States whose annual value is higher than the statistical threshold are also required to submit Intrastat statistical declaration.

Intrastat statistical system is closely related to the fiscal system. This relationship is based on the fact that VIES and VAT data are used in the Intrastat system for the following purposes:

- Identification of economic operators responsible for submitting Intrastat statements (called providers of statistics –PS)
- Verification of the completeness of the data provided in the Intrastat declaration;
- Establishment of annual statistical thresholds for Intrastat statistical system
- Check the quality of data in the Intrastat declarations.
- Estimate data for non-respondent and under statistical thresholds economic operators.

¹⁵ Council's conclusions from May 14th, 2013 regarding fraud and tax evasion (doc. 9549/13 – FISC 94 – ECOFIN 353).

MPF provides to NIS (National Institute of Statistics) the information necessary to monitor intra-Community trade operators and to verify the collected statistical data.

Economic operators obliged to submit Intrastat declaration are identified based on the values declared in VAT statements and summary statements on intra-Community deliveries / acquisitions of goods (form 390 - VIES) for intra-Community exchange of goods. Thus, by using VAT and VIES data, compared to data reported in Intrastat declarations, NIS may identify operators with intra-Community trade of goods, the volume of this trade and if the economic operators that must submit Intrastat declaration fulfill their reporting obligation or not.

Depending on the nature of the transactions, the data in the Intrastat declaration may differ compared to data from VAT statement / summary statements on intra-Community deliveries / acquisitions of goods (form 390-VIES).

For example, the introductions of goods for processing under contract has to be reported to Intrastat, but must not be declared for summary statement regarding intra-Community deliveries / acquisitions of goods (form 390-VIES) nor for the VAT statement. Shipments of goods after processing under contract shall be reported to Intrastat at full value, while for summary statement regarding intra-Community deliveries / acquisitions of goods (form 390-VIES) and for the VAT statement the economic operators shall declare only the cost of processing activity (labor).

A fair and valid VAT identification number is an essential element in the current VAT systems, because it sets the rules and obligations applicable especially to intra-Community trade.

Both tax administrations and businesses must be able to rely on accurate information concerning the VAT status of an economic agent. However, at the moment the data are not always accurate. In some Member States, the VAT identification numbers remain valid even after it was proven that the taxpayer is involved in fraud activities in the field of VAT and disappeared. In addition, the time of recording is also essential to check whether the undertaking will have a real economic activity. Fraud can be prevented if potential evaders have limited possibilities to present themselves as registered contributors for intra-Community trade. VAT on imported goods was paid in customs until December 31, 2016, with the exception of the taxable persons registered for VAT purposes who obtain a certificate of deferment from paying VAT on imports, issued by the Customs authorities. The ceiling on the minimum value of imports for deferment certificate of VAT payment is 100 million Lei over the past 12 months prior to the month in which the certificate is sought or in the previous calendar year. In this case, VAT is not paid to customs, but shall be entered in the VAT return, both as a deductible and collected charge. With effect from January 1, 2017 this feature is applied to all persons registered for VAT purposes.

Businesses and tax administrations should be able to rely on the information they can get relating to the VAT status of a person. The introduction of minimum standards at EU level for the registration and deregistration of taxpayers in the VIES system of information exchange relating to VAT, can lead to increased confidence in this information. The minimum standards listed include objective data that must be supplied by the operator before getting a VAT identification number, as well as the obligation to eliminate the VAT identification number of the VIES database when certain conditions and objective criteria are met, which must be complied with during the procedure for registration and deregistration. Possession of up-to-date information on the status of economic agents is very important for the VAT systems governing intra-Community trade to function properly.

The information in question must also be made available to economic operators in the most efficient way possible. Currently, economic agents can verify the validity of the VAT identification number of their business partners for the VAT purposes in another Member State. However, only some Member States provide information on the names and addresses of the respective business partner. It has already reached an agreement that guarantees that you can get, for all Member States the name and address confirmation electronically. This confirmation should also give more legal certainty to the

applicant, considering that it will be compulsory on the tax authorities concerned. The European Commission is planning to draw in more detail this agreement within the framework of a legislative proposal.

3. Billing - the main element of the VAT system

Billing is a main element of the current VAT system. A legislative proposal aimed at simplification, harmonization and modernization of current rules regarding billing should reduce the administrative burden on businesses. To facilitate compliance with these rules will certainly have an effect on the prevention of fraud.

Invoices for goods' deliveries and internal services provision shall be issued at the latest on the fifteenth day of the month following the month in which the supply of goods or provision of services takes place. VAT related to deliveries/ provisions must be reported in the month of delivery/provision. The invoice must contain the minimum information required by law, provided for in Directive 112/2006.

Taxable persons have the possibility to issue centralizing invoices or invoices on behalf of the supplier / provider and to issue and archive invoices using electronic means. In terms of VAT, signing and stamping the invoices are no longer required.

From January 1st, 2013, were introduced new rules on invoicing, establishing equal treatment for paper-based invoices and electronic ones that meet the same conditions. Thus, any documents or messages on paper or in electronic form are considered invoices if they meet the minimum conditions regarding invoicing. Invoices for taxable operations in Romania must comply with the applicable national rules, and in the case of invoices issued for taxable operations in another Member State it must comply with the rules applicable in that Member State.

There have been introduced new elements to be included in the invoices. For example, if the recipient is the person liable to pay the tax, on invoices will score the endorsement "Reverse Charge"; if the special scheme apply for travel agents, the mention "Margin Scheme – Travel Agencies" and if the invoice is issued by beneficiary name and account of the supplier, the words "Self-invoice" etc.

In the case of electronic invoices, the authenticity of origin and the integrity of content can also be guaranteed by management controls that establish a direct link between an operation, the related invoice and other documents issued in connection with that operation.

VAT chargeability occurs at the time of goods delivery / services provision, with certain exceptions.

Chargeability on intra-Community deliveries (livrări intracomunitare LIC) occurs on the date of issue self-invoice or the fifteenth day of the month following that in which is carried LIC, if an invoice / self-invoice has not been issued to date.

Dissenting opinions lead to mismatches that reduce the usefulness of the gathered information. Such differences undermine the utility of the legislative proposal on reducing the deadlines for recapitulative statements and VAT returns.

4. Conclusions

Certain measures, such as common storage periods and harmonized rules concerning the date on which an invoice must be issued can facilitate controls in the Member States. Currently, there are cases where the applicable invoicing rules are those of the Member State of the customer, for a reverse charge delivery, and in terms of fiscal control of the provider established in another Member State, different rules apply.

Exchange of information between Member States on intra-Community transactions is a key element in allowing the Member State in which the purchase takes place to detect relevant deliveries. This implies, however, that Member States to have the same interpretation of the chargeability of VAT on intra-Community deliveries and acquisitions of goods, in order to ensure that the declaration takes place simultaneously in both Member States.

5. Bibliography

1. *** COM(2012)722 final
2. *** Council conclusions of May 14, 2013 on fraud and tax evasion (doc. 9549/13 – FISC 94 – ECOFIN 353)
3. *** Committee of Experts on International Cooperation in Tax Matters, Seventh session, Geneva, 24-28 October 2011, Item 5 (h) of the provisional agenda, Revision of the Manual for the Negotiation of Bilateral Tax Treaties
4. *** Commission Decision (2012/C198/05) of July 3, 2012 on the establishment of EU VAT Forum
5. *** Directive 2010/23/EU of March 16, 2010 amending Directive 2006/112/EC on the common system of value added tax, with regard to optional and temporary application of the reverse charge mechanism to provide certain services susceptible to fraud (JO L 72 of 20.3.2010).
6. *** Law no.87 / 1994 was repealed by Law no. 241/2005 on preventing and combating tax evasion published in the Official Journal of Romania, Part I, no. 672 / 27.07.2005