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**Article**

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## CORPORATE GOVERNANCE, INTERNAL AUDIT AND ENVIRONMENTAL AUDIT - THE PERFORMANCE TOOLS IN ROMANIAN COMPANIES

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### ABSTRACT

*Previous studies on companies listed on the Bucharest Stock Exchange (BSE) revealed that most of these entities do not meet the new corporate governance requirements about independent directors, Audit Committee members and the general recommendations of transparency. Companies that apply a lower level of corporate governance recommendations tend to have poorer performance, being less profitable and having a higher volatility. Correlation between corporate governance and internal audit is approached through the determinism relationship between turnover, assets investments and employees attraction, and positivity of this relation shows that it is beneficial of the performance of these companies. An effective internal audit function is supposed to assist management to fulfill its governance responsibilities. The environmental aspects incorporated in internal audit area will reduce the pressure from stakeholders on the environmental actions and impact of the company and their trust of the information disclosed on the overall performance will increase. The study is based on quantitative analysis using a multiple linear regression model to explain economic phenomena. The variables used are: turnover (CA), fixed assets (AI) and number of employees (SAL) reported for 2010 by the companies listed on BSE, BVB and RASDAQ sections. This paper evaluates the financial performance, measured by turnover, dependent variable relative to changes in factors that influence performance, expressed by the independent variables, fixed assets and number of employees and present behaviour of companies under financial and economic crisis, inviting them to know the causes that affect reaching the performance, to change their actions and set priorities.*

✦ Corporate governance, performance, internal audit, environmental audit, empirical analysis

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## **INTRODUCTION**

Anglo-Saxon concept „corporate governance” means the system by which companies are directed and controlled. It is considered that the most judicious expression should be „big government enterprises”, because research and recommendations are, essentially, referring on this category of entities (Dumitrana *et al.*, 2008: 34).

In literature the concept of corporate governance includes elements of social responsibility, ethical business practices, issues referring to internal and external audit transparency, managers responsibility for the accuracy of information presented in financial reports or communication and full transparency on financial results (Bunget *et al.*, 2009, quoted by Ionescu, 2009).

Credibility and transparency of financial information provided by the management of a company is strengthened by the independent audit role - an essential component of corporate governance - monitoring in behalf of the owners / shareholders of the company activities. Internal audit provides independent verification of work managers. Given that the contractual relationship between the owner (principal) and management (agent) is the agency theory should be established and clarified to ensure that management acts in best interests of the owner including such monitoring by auditors (Lin & Liu, 2009).

Corporate governance involves the relationship between stakeholders and business objectives. The various conflicts of interest between the company managers and owners (such as positive correlation between increase company size and remuneration of managers from the study of Ileana, 2008) lead to compromise a company's financial performance. On the other hand, if the governance mechanisms are weak so they can not control management decisions, the top management can diversify in company until it can no longer profitable (Ileana, 2008).

A key to improve economic efficiency is good corporate governance. Corporate governance is already fully recognized as critical in establishing an attractive investment climate, characterized by the existence of competitive companies and efficient financial markets. The importance of efficient financial markets for economic growth is now supported, both macroeconomic and microeconomic, as well as the wider relationship between corporate governance decisions and economic growth (Morariu *et al.*, 2008: 182).

The literature suggests that there is a connection between corporate governance, internal audit and environmental audit. In this research I will test this hypothesis in the case of Romanian listed entities, using a multiple regression model. This model concerns the tested influencing turnover (CA) by independent variables fixed assets (AI) and number of employees (SAL) at the company level. The paper is organized as follows: a brief introduction followed by notions of corporate governance concepts

and empirical research in this field, presenting the internal audit and environmental audit; research methodology with reference to performance indicators used, data analysis and research hypothesis; the results and testing of the econometric model estimation followed by conclusions drawn from empirical study.

## 1. CORPORATE GOVERNANCE, PERFORMANCE AND INTERNAL AUDIT

Globalization and liberalization of financial markets have led to the opening of international markets, offering the potential of huge profits, but this exposed the companies to strong competition and the high turnover of capital. Governments and executives are now aware that the need for capital exceeds the normal financial resources for being able to compete internationally and to develop.

The modern business world is based on competition, where a company's success is based on adapting to market and maximize profits. Therefore, wealth maximization is the goal of any business owners, according to traditional financial theory. These two aspects shape the stakeholder behavior, but this behavior must comply with ethical standards.

Good governance in a company is a tool for organizational strategy and the key to performance. The corporate governance aims to increase the company performance and to harmonize the various interest groups. Any interested company is interested to increase continuously the effectiveness with which resources, material, financial and human resources available are managed and used (Morariu *et al.*, 2009).

Previous research on corporate governance refers to the effectiveness of the Board for ensuring the prosperity of the company and the important role of the board in the strategic orientation of corporations (Hendry & Kiel, 2004; Pugliese *et al.*, 2009, quoted by Barroso *et al.*, 2011). Another stream of research in this area is risk management as a central task of corporate governance. Pirson and Turnbull (2011), stated that there were two general reasons for the councils that have not performed well their duty of risk management during the financial crisis of 2007-2008, namely: (1) board members did not had access to relevant information about the risks that management has suffered, because they had no control over the provision of information and (2) board members were unable to process information about risk that the directors have had, and had no incentives or power to influence managerial decisions. Therefore, they suggest increasing information at the Board level about processing capabilities and decision-making by introducing a division of power and labor by installing multiple boards, representing various stakeholders (Pirson & Turnbull, 2011).

One of the organizations focused on implementing a corporate governance regime is the international Organization for Economic Co-operation and Development (OECD).

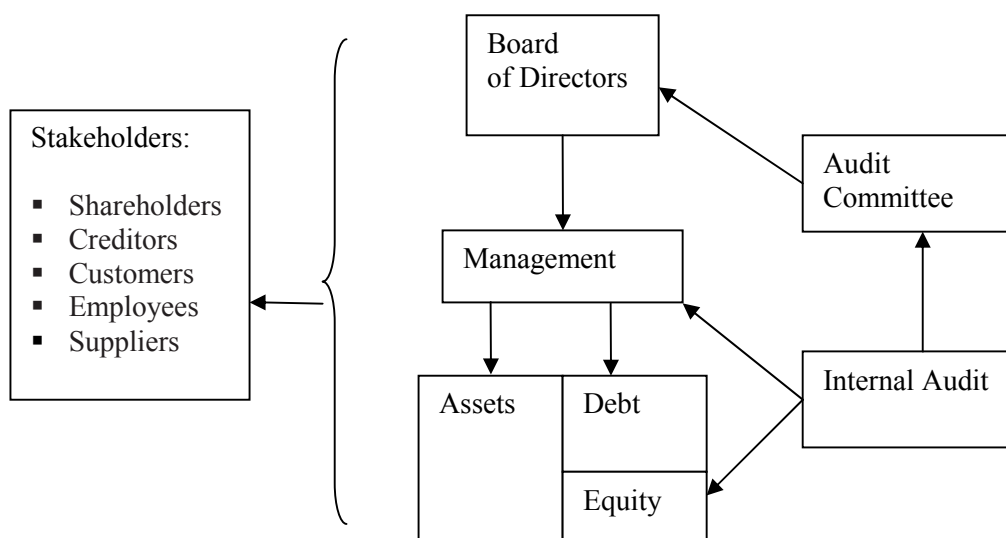
OECD principles aim to ensure a transparent framework that is consistent with legislation, clear specification of shareholder rights, information transparency, and establishment of the role of the Board so as to understand the concerns of various interest groups. Role and rights of various interest groups relate to the role of employees, suppliers and customers in business management, a role that must be respected in accordance with national legislation, giving them even the opportunity to participate in corporate governance, in legal limits (Duca *et al.*, 2007). In particular, after the great scandals that have rocked companies like WorldCom or Enron, governments and supervisory authorities have focused their attention on establishing a more effective corporate governance process.

In Romania, the legal sources that are governing this type of relationship are found in legislation in the company law (Law no. 31/1990), accounting law (Law no. 82/1991), and capital market law (Law no. 297/2004). Also, in 2000, it was elaborated a code of corporate governance by the initiative of the Chamber of Commerce and Industry of Romania, a project conducted under the USAID (United States Agency for International Development) program, an organization that has been the heart of many changes in Romania. However, a major cultural and economic impact has not yet been produced in the corporate governance system, applicable to Romanian companies (Ionescu, 2009), because the adoption of and the compliance with Corporate Governance Code is voluntary.

According to the rules of corporate governance, the company should establish an Audit Committee consisting of Board members, non-executive directors, most of whom should be independent. The Audit Committee is an integral part of corporate governance and financial reporting processes. Previous research shows that audit committee composition is associated with the monitoring of internal control. Zhang *et al.* (2007), Hoitash *et al.* (2009) and Naiker and Sharma (2009) found that the presence of accountants in the audit committee is associated with a lower risk of problems of internal control and better quality of financial reporting (Bedard *et al.*, 2004, Krishnan & Visvanathan, 2008; Naiker & Sharma, 2009, quoted by Barua *et al.*, 2010). Barua *et al.* (2010) extend the research and investigate how the presence of experts in accounting and audit within the audit committee is linked to investment in internal audit. Their findings suggest that audit committee members' experience in audit and specific knowledge of their company may have substitution effects on investment in internal audit. Also, the internal audit budget is positively related to the number of audit committee meetings and these meetings are conducive to internal audit and risk management of false financial reporting.

Internal audit is considered an insurance service according to the definition of insurance services. As a consulting service, internal audit emphasizes its transition from compliance to add value and relationship with management to find solutions, not just the problems (*Figure 1*).

Figure 1. Corporate governance and internal audit



(Source: adapted from Gillan, 2006)

In the case of Romania, the empirical study conducted by Feleagă et al.(2011) on a number of 15 companies listed on BSE looking the importance given to corporate governance principles in Romania, indicated that most companies from the sample do not meet the recommendations of the governance code regarding independence of directors and audit committee members. Moreover, for most companies analyzed, the degree of transparency is significantly lower than that of other European companies.

The importance of the Audit Committee can be found in monitoring the efficiency of internal control. It oversees and reviews the company's financial reporting process and act as a liaison between external auditors, internal auditors, managers and Board to ensure accurate information flow and transparency in reporting. The Audit Committee can assist the Board in the implementation, monitoring and follow good corporate governance practices of which benefit the company and stakeholders (Saibaba & Ansari, 2011).

Internal audit is an independent and objective assurance and consulting activity, designed to bring added value and improve the company. Internal audit guides the company to achieve its goals, addressing in a systematic and methodical process of evaluating and improving the effectiveness of risk management, control and governance. In other words, internal audit is one of the most powerful means of monitoring and promoting good governance system in a company.

The overall objective of the internal audit activity is to obtain reasonable assurance that the management and control system of the company is operating effectively, as

required by regulations and that the operations are carried out correctly and have no errors.

Internal audit helps the company to operate in accordance with standards and regulations by evaluating a specific controls and procedures and ensure that those charged with governance that internal company processes are adequate and functional. It is important that internal audit attend the debate at the highest level of decision in the company of important issues which have implications on the company's activity system as a whole, thereby creating the possibility of guiding the internal audit activity toward the issues that management is facing (Morariu *et al.*, 2008: 6). In addition, internal audit is an effective line of defence against fraud, having a role both in monitoring risks and in preventing and detecting fraud and being one of the tools available to the audit committee, able to independently assess the risks of fraud and anti-fraud measures implemented by the executive management (Nadir, 2007).

The traditional role of assurance of internal audit function is completed with its involvement in improving internal controls, and provides a significant level of comfort to the audit committee. Internal auditors' knowledge about risk management and internal control, combined with inter-personal skills and behavior, their domestic position, familiarity with the company and staff provide a major source of comfort to the audit committee (Sarens *et al.*, 2009). Previous research in this area, supporting the argument that the asymmetry of information between audit committees and company management is reduced when there is interaction between the audit committee and internal audit function (Raghunandan *et al.*, 2001; Scarbrough *et al.*, 1998, quoted by Sarens *et al.*, 2009), without detailing these interactions.

## **2. ENVIRONMENTAL AUDIT AND INTERNAL AUDIT**

At the corporate level, the growth opportunities of the company and communication of information about business performance have a significant impact, generating the necessary support for accountability and value creation. In the case of the knowledge based economy it is recognized the need for new approaches to decision making for supporting sustainability initiatives. The major objective of a company is not only simply getting the profit performance, but is multidimensional: economic, social and environmental (Caraiani *et al.*, 2010:26).

Supported activities for sustainable development worldwide have increased the company's confidence in auditing systems of environmental impact and environmental performance as a competitive advantage in strategic positioning. New tools are now available for companies to become pro-active and ecologically efficient. We mention here the strategic environmental assessment, environmental impact assessment, life cycle assessment and standard systems of environmental management (EMSs). ISO 14001 is the dominant international reference system for evaluating environmental management processes, and many companies in Europe are registering

their EMSs in accordance with the Eco-Management and Audit Scheme (EMAS) (Petrosillo *et al.*, 2012). The EMS of a organization is defined as a transparent and systematic process at the corporate level in order to prescribe and implement environmental objectives, policies and responsibilities, as well as a regular audit of its elements (Steger, 2000, quoted by Petrosillo *et al.*, 2012). An organization's ability to achieve environmental objectives depends heavily of monitoring the continuous improvement of environmental performance through efficient planning of organizational, economic investments and necessary technological measures. In addition, the level of competence and awareness of staff could have a significant environmental impact (Iraldo *et al.*, 2009).

Analyzing the literature, we find that more and more companies publish a sustainability report, emphasizing here the environmental impact, not only as accounting tool but also strategic, to highlight new revenue and growth. In a market where traditional elements of competitive advantage decrease dramatic in importance, environmental advantage tends to become a decisive element in the strategy of any company, regardless of size. No company can afford to ignore environmental impact, but those who have developed skills in managing these impacts are those that will last longer on the market and will be more profitable.

Addressing the environmental audit as part of an integrated audit is the systematic examination of the relationship processes, procedures and activities with environmental company. The principle of audit integration makes that all forms of audit described in the literature are to be applied from the environmental perspective. External environmental audit aims to evaluate environmental conditions at local, regional and national level and express its opinions in a report on the environment. Internal environmental audit focuses primarily on two areas: policy impact assessment in the company, by way of a systematic stage of activities, objectives, services, practices with environmental impact management and audit system, by conducting the proceedings and structures through which environmental policy is driven by the company (Caraiani *et al.*, 2010:103-104).

Originally designed as internal practice management, environmental auditing has expanded outward to connect with regulatory programs and is experimenting with forms of external reporting. In contrast to external financial audit, begins outside the organization, in order to officially serve external stakeholders, being forced to grow inside and embrace internal control systems they have developed. To financial audit concerns of independent validation and reporting are relatively recent environmental audit. The difference is scored as follows: while the external financial audit has developed the ability to rely on internal audit, environmental audit is an internal practice, which in EMAS is based on a function of external verification (Power, 1997).



Environmental audit is a voluntary activity of companies. Darnall *et al.* (2009), examines the use of voluntary environmental audit and the influence of stakeholders on the implementation of various types of environmental audit by the company. Although internal audits often reveal specific operations and processes that need improvement, they are criticized for lack of transparency and external credibility. By contrast, external audits provide insurance for the company and its external stakeholders, about the environmental practices of business management. This approach, however, may not provide equivalent operational benefits, such as those arising from internal audit. Their findings show a positive relationship between the influences perceived from stakeholders – internal stakeholders, regulation and supply-chain – and the use of environmental audit (Darnall *et al.*, 2009).

Prospects of environmental focused audit are given by the financial statement audit, compliance audit and environmental audit. Financial statement audit addresses environmental issues that impact their detail components, such as actions to prevent, stop or remedy environmental damage, conservation and non-renewable resources, consequences of violations of environmental legislation and environmental requirements imposed by the state. Compliance audit ensures that the activities organized on a level subjected to the audit are consistent with laws, standards and environmental policies. Environmental performance audit certifies eco-performance indicators included in the overall performance and environmental programs conducted economically, efficiently and effectively (Caraiani *et al.*, 2010).

Let's look at performance in terms of environment. Environmental audit is a solution for the company's environmental performance? Is the internal audit a facility for environmental audit? Worldwide, environmental audit is seen as an important tool for creating competitive advantage for the companies that organize it, materialized in identification of potential benefits to stakeholders, sustainable gains, cost savings and improvement of the public image of the company (Caraiani *et al.*, 2010).

If we include environmental issues in internal audit functions, extending its coverage, demonstrating that internal audit is beneficial to organizational performance, we conclude implicitly that environmental audit of a company improves overall performance by involving employees, public reporting on environmental, checks in terms of processes carried out environmental impact and compliance with regulations in force.

### **3. RESEARCH METHODOLOGY**

For reaching the proposed objective, after an extensive literature review I use an econometric model of regression and a quantitative method of data collection. In a linear regression model there are important aspects related to variables identification and the development of the parameters of the regression model. Linear multiple regression model is defined by the linear relationship between economic variables and

through a set of hypotheses on the data series, the residual variable and variable model and the linear relationship between them.

Effectiveness of corporate governance can be assessed by internal audit. Current trends in internal audit at international level focus on the monitoring of management systems (quality management systems - ISO 9001) and existing or potential risks. According to EMAS, ISO 14001 and ISO 9001 it can consider environmental audit as part of internal audit.

In building the model presented in this paper we started from fact that assessment of the good practice of corporate governance through turnover is based on the internal audit through monitoring fixed assets and number of employees. An effective internal audit drives to performance due by good governance, a causal relationship strong this position.

Turnover measures the economic performance of companies and is used as a criterion for their classification after their economic importance. Fixed assets represent assets that are used for a long time in the company and are not consumed at the first use. They gradually give their value over the products. Except for land, assets have limited life time and are consumed for obtaining revenues.

The existence, operating and development of a company involves consumption of financial resources, embodied in the goods or services that are purchased. The expected benefits coming from their exploitation is obtained either in the current or future periods.

The acquisition of assets that are improper for the activity or unnecessary and have unjustifiable prices and the risk of fraud are just some of the risks affecting the company. Managers are meant to design a strategy for acquisition and use of current assets to meet the goals of rationality and efficiency. Here comes the role of internal audit to observe, to find, evaluate and advise management, for example if security of assets is or not insured; they may have a low energy consumption, favorable to environmental aspect, and at the same time, a reduction of energy costs would lead to an additional increase of profit; there are becoming more and more efficient, although at a high cost, thus facilitating the work of employees and hence labor productivity growth, being safe to be used by employees and the benefit / cost relation will be higher than one.

Studies examining the financial benefits of employee involvement in corporate governance are not very diversified. Allen and Gale (2002, cited by Fauver & Fuerst, 2006) argue that a stakeholder corporate governance, which emphasizes cooperation between management and employees, can allocate resources more efficiently than a long-term shareholders. In a study of German companies, Fauver and Fuerst (2006) show that employee representation in boards delivering value for high quality corporate operational knowledge in making decisions and provides a powerful means to monitor and reduce agency costs in a company.

#### **4. CORRELATION ANALYSIS OF KEY INDICATORS OF CORPORATE GOVERNANCE**

We present a comparative analysis using a statistical-econometric methodology, used by a wide range of authors in the literature (e.g. Brezeanu *et al.*, 2011, the correlation between leverage effect and profitability with corporate risk management strategies). Statistical parameters measuring symmetry, normality distribution, correlation of various statistical data are obtained by the regression function. Processing data for analyzed indicators are calculated by running the Eviews application.

Corporate governance is the combination of control elements that operate together to regulate the relationship between all those with an interest in company: shareholders, management, employees, customers, suppliers, creditors, etc. A critical role of corporate governance is to manage resources effectively and fairly with direct impact on profitability and reduce the negative aspects of any kind on creating value for all company stakeholders. However, the separation between ownership and management may lead to opportunistic behavior of managers. Internal audit controls work managers and information provided by them and serves to reinforce trust in financial reporting and to improve agency problems and reduce costs. For example, a framework of agency theory suggests that agents (managers) have more interest than directors (shareholders) to highlight the performance of corporate social and environmental concerns, because they have no residual claim on company income (Graves & Waddock, 1994, quoted by Halme & Huse, 1997).

Annual financial reports are the most visible and publicized documents of companies and are the main means by which companies communicate explanations of past performance, expected future results and any other information that companies find it important to convey to the public. Disclosure of environmental information in these reports indicates that companies are aware of environmental issues, and improved thus visibility in operating business and increase awareness of internal stakeholders (eg. employees) and external (eg. financiers) on these issues (Halme & Huse, 1997).

Data taken from companies' financial reports are used in taken to study model of the relationship between corporate governance and performance, taking into account the inter-relationship between corporate governance and internal auditing, internal environmental audit respectively. The estimated values by which companies can invest in assets and employ thus such turnover can cover costs and liabilities arising from these operations and obtained profits. We hope this model to guide both managers and people dealing with governance in setting strategies and targets for turnover and investment.

Introduce the hypothesis: *increasing turnover of a company is correlated with the investments in fixed assets and attracting employees to the company.*

Given the concepts presented in the introduction of the paper, we develop a multiple regression model outlining the dependencies between gross profit and its determinants of the companies listed on Bucharest Stock Exchange, Romania, including the companies listed on BVB and RASDAQ market. RASDAQ became a market segment of BVB in 2006, through fusion, for strengthen the capital market. The number of companies listed on both sections is 1295, but companies that had no assets or employees we have been eliminated from the study. We mention that they took into account the companies that had gross loss. I made no difference to companies depending on the variables considered for three reasons: (1) any company purchases and uses assets for the turnover, (2) listed companies meet certain criteria to be accepted on BVB, even if they have adopted or not the Code of Corporate Governance (information about the activity, management, future prospects, risk factors, financial reporting, indicators), (3) any small company can take good example of a large company.

We consider three factors of analysis: turnover, total assets and number of employees, the model having the following form:

$$y_i = a \cdot x_i + c \cdot z_i + \varepsilon_i, i = 1, \dots, n$$

where:  $y_i$  is the turnover,  $x_i$  represent fixed assets,  $z_i$  represent the number of employees, for the year 2010;  $a$ ,  $b$ ,  $c$  are the regression model parameters and  $n$  is the number of the analyzed companies (source: [www.bvb.ro](http://www.bvb.ro) – Listed actions on BSE).

I analyze how assets influence the number of employees for a turnover level on a sample of 1018 companies.

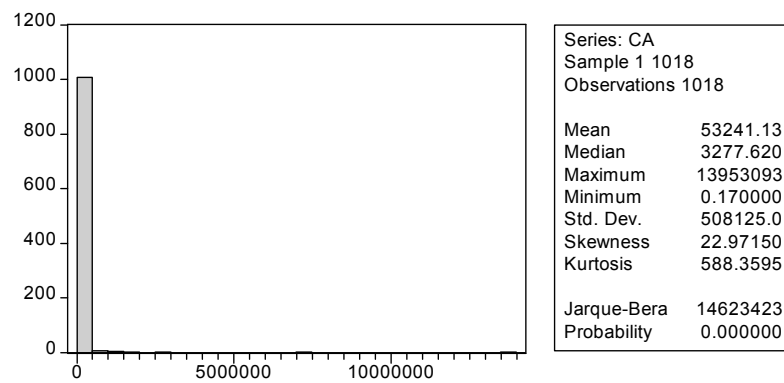
#### 4.1 Descriptive analysis of data series

Series of data required for estimation of the model are cross-sectional data (collected at a time for a set of statistical units, [www.mfinante.ro](http://www.mfinante.ro) source):

- Turnover - denoted by CA
- Fixed assets - denoted by AI
- Number of employees - denoted by SAL

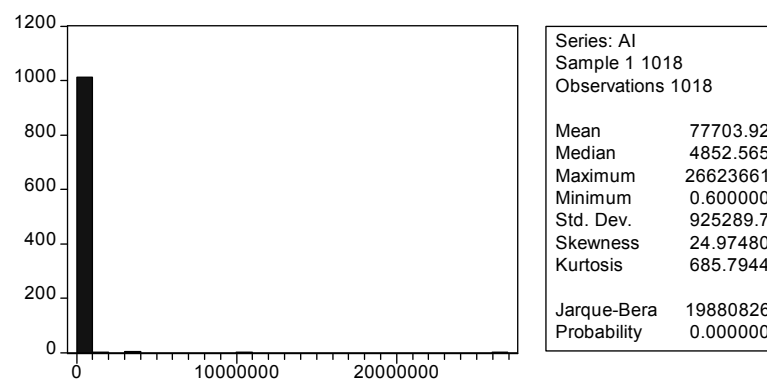
In this model, CA series has a 53241.13 *Mean*, the values ranging between a *Minimum* of 0.17 and a *Maximum* of 13953093. *Standard Deviation* of 508125 shows us that the data are heterogeneous. *Skewness* is 22.97, *Kurtosis* 588.35, *Jarque-Bera* 14623423 indicate the data distance from the central value of this series (Figure 2).

Figure 2. Histogram and stats of CA series



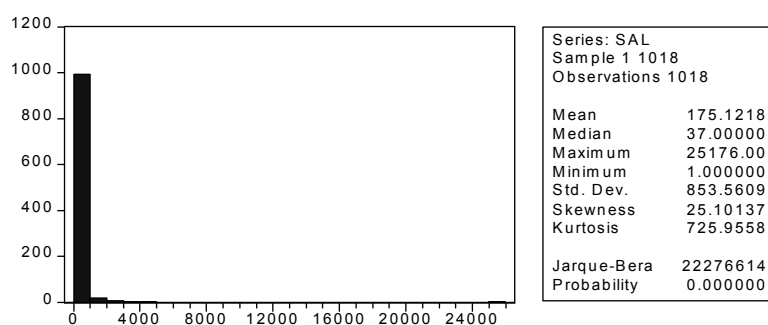
Series AI has a 77703.92 *Mean*, values ranging between a *Minimum* of 0.60 and a *Maximum* of 26623661. *Standard Deviation* of 925289.7, *Skewness* is 24.97, *Kurtosis* 685.79, *Jarque-Bera* 19880826 (Figure 3).

Figure 3. Histogram and stats of AI series



For the series of data describing the number of employees, is 175.12 *Mean*, values ranging between a *Minimum* of 1 and a *Maximum* of 25176. *Standard Deviation* of 853.56, *Skewness* is 25.10, *Kurtosis* 725.95, *Jarque-Bera* 22276614 (Figure 4).

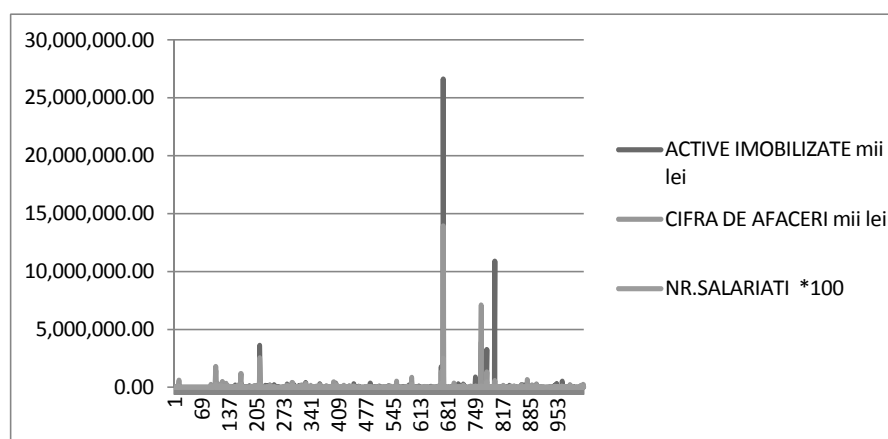
Figure 4. Histogram and stats of SAL series



We can say that for the three series of data indicators played by the *Histogram and Stats* it shows the lack of normal distribution of data in the series and suggests a wider range of values for these data series.

Deterministic relationship between the three data series expresses the dependence of turnover CA as the dependent variable and independent variables fixed assets AI and number of employees SAL (Figure 5).

Figure 5. Importance of AI and SAL to determine CA (Excel)



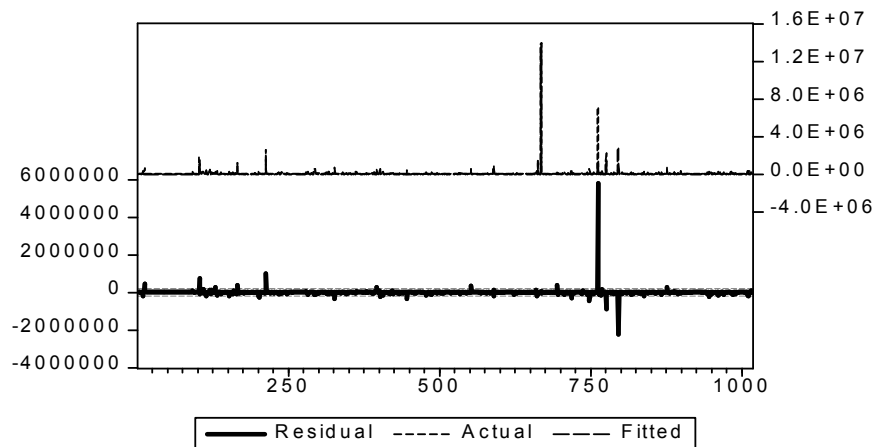
#### 4.2 Regression model estimation by method of least squares (OLS)

As in reality, the dependence of turnover as the dependent variable and independent variables fixed assets AI and number of employees SAL is a stochastic, and in determining CA there were taking into account only two factors (although dependencies are more numerous), the econometric model is given by:

$$y_i = a \cdot x_i + c \cdot z_i + \varepsilon_i, i = 1, \dots, n$$

where  $\varepsilon$  is the error of mean (specification), which is a random variable (stochastic) that has certain probability properties, given the inexact relationships between variables (Figure 6).

*Figure 6. Actual values, fitted CA series and residual series (Eviews)*



Estimating parameters for the proposed model, the relationship between turnover dependent variable (denoted CA) and independent variables fixed assets (denoted AI) and number of employees (denoted SAL) we obtain the following form for the regression equation (Table 1):

$$CA = -15528,08 + 0,260xAI + 277,238xSAL$$

Determining ratio: 0.8311; Adjusted determining ratio: 0.8308

*Table 1. The estimation results for the regression model parameters*

|                             |             |                    |             |          |
|-----------------------------|-------------|--------------------|-------------|----------|
| DEPENDENT VARIABLE: CA      |             |                    |             |          |
| Method: Least Squares       |             |                    |             |          |
| Date: 02/04/12 Time: 15:13  |             |                    |             |          |
| Sample: 1 1018              |             |                    |             |          |
| Included observations: 1018 |             |                    |             |          |
| CA=C(1)+C(2)xAI+C(3)xSAL    |             |                    |             |          |
|                             | Coefficient | Std. Error         | t-Statistic | Prob.    |
| C(1)                        | -15528.08   | 6823.557           | -2.275657   | 0.0231   |
| C(2)                        | 0.260203    | 0.015098           | 17.23461    | 0.0000   |
| C(3)                        | 277.2380    | 16.36643           | 16.93944    | 0.0000   |
| R-squared                   | 0.831151    | Mean dependent var |             | 53241.13 |
| Adjusted                    | 0.830818    | S.D. dependent var |             | 508125.0 |

|                    |           |                       |          |
|--------------------|-----------|-----------------------|----------|
| R-squared          |           |                       |          |
| S.E. of regression | 209000.5  | Akaike info criterion | 27.34100 |
| Sum squared resid  | 4.43E+13  | Schwarz criterion     | 27.35552 |
| Log likelihood     | -13913.57 | Durbin-Watson stat    | 1.990583 |

### 4.3 Statistical tests

#### 4.3.1 Significance of model parameters testing

Probabilities for the t-Student test for independent variables coefficients are below 5% (0.00 for AI and SAL variables, 0.02 for the free term, thus rejecting the null hypothesis that the regression slope is significantly different from zero, so both exogenous variables significant influence on the dependent variable CA).

Another test of the significance of parameters is Wald test of restrictions on parameters (Table 2) for which we define the assumptions:

$$H_0: a_1 + a_2 = 1$$

$$H_1: a_1 + a_2 \neq 1$$

The results suggest rejecting the null hypothesis set. Both for F test and for Chi-square test it will be obtain zero values for the probabilities, so the parameters are significantly different from 1.

Table 2. Wald Test

|  |          |           |             |
|--|----------|-----------|-------------|
| WALD TEST:                               |          |           |             |
| Equation: CA                             |          |           |             |
| Test Statistic                           | Value    | df        | Probability |
| F-statistic                              | 285.8807 | (1, 1015) | 0.0000      |
| Chi-square                               | 285.8807 | 1         | 0.0000      |
| Null Hypothesis Summary:                 |          |           |             |
| Normalized Restriction (= 0)             |          | Value     | Std. Err.   |
| -1 + C(2) + C(3)                         |          | 276.4982  | 16.35309    |
| Restrictions are linear in coefficients. |          |           |             |

#### 4.3.2 Testing errors autocorrelation

We apply the Durbin-Watson test for errors autocorrelation testing for which we defined the two hypotheses:

H0:  $\rho = 0$ , there is no autocorrelation in the residues series

H1:  $\rho \neq 0$ , residues series presents the first order autocorrelation



Lower, respectively superior limits for the high DW statistic ( $\alpha = 0.01$ ,  $k = 2$ ) are 1.50 respectively 1.58. Calculate  $d_u < DW < 4 - d_l$  and get  $1.58 < 1.99 < 2.50$ . It follows that the null hypothesis is accepted, so there is a significant first-order linear correlation in the residues series.

#### 4.3.3 Testing heteroskedasticity

For testing whether the hypothesis of constancy of residual value variance is observed it is used White test. We use the version in which the squares residues are estimated based on exogenous variables and their squares ("no cross terms"). Heteroskedasticity was tested by analyzing the coefficient of determination ( $R^2 = 337.42$ ). The value obtained being greater than the one in the table confirms that there is no heteroskedasticity between model errors (Table 3).

*Table 3. White Test*

| WHITE HETEROSKEDASTICITY TEST: |             |                       |             |          |
|--------------------------------|-------------|-----------------------|-------------|----------|
| F-statistic                    | 125.5588    | Probability           |             | 0.000000 |
| Obs*R-squared                  | 337.4232    | Probability           |             | 0.000000 |
|                                |             |                       |             |          |
| Test Equation:                 |             |                       |             |          |
| Dependent Variable: RESID^2    |             |                       |             |          |
| Method: Least Squares          |             |                       |             |          |
| Date: 02/05/12 Time: 22:45     |             |                       |             |          |
| Sample: 1 1018                 |             |                       |             |          |
| Included observations: 1018    |             |                       |             |          |
| Variable                       | Coefficient | Std. Error            | t-Statistic | Prob.    |
| C                              | 7.30E+10    | 3.11E+10              | 2.349884    | 0.0190   |
| AI                             | 3940870.    | 205115.2              | 19.21296    | 0.0000   |
| AI^2                           | -0.291495   | 0.020535              | -14.19509   | 0.0000   |
| SAL                            | -1.42E+09   | 1.37E+08              | -10.32576   | 0.0000   |
| SAL^2                          | 216203.1    | 19405.56              | 11.14130    | 0.0000   |
| R-squared                      | 0.331457    | Mean dependent var    |             | 4.36E+10 |
| Adjusted R-squared             | 0.328817    | S.D. dependent var    |             | 1.07E+12 |
| S.E. of regression             | 8.76E+11    | Akaike info criterion |             | 57.84084 |
| Sum squared resid              | 7.78E+26    | Schwarz criterion     |             | 57.86503 |
| Log likelihood                 | -29435.99   | F-statistic           |             | 125.5588 |
| Durbin-Watson stat             | 1.933776    | Prob(F-statistic)     |             | 0.000000 |

#### 4.4 Results

We may interpret the regression equation like this: if fixed assets increase by 1000 lei, turnover increased by 260 lei (these data series were divided by 1000), and if the number of employees increased by 1, the turnover increases by 277238 lei.

From the results of regression model run by the computer program Eviews, we got that fixed assets and number of employees influence in a large extent the turnover (83.11%) and the variables chosen to determine the dependence of turnover on the basis of assets and number of employees are of good quality (83.08%). Statistical link between the endogenous variable and exogenous variables is good, demonstrating that the variables in the model are properly chosen.

Regression analysis model presented cannot be considered complete without mentioning the fact that significant amount of free term means that factors not included in the model influences the CA. The free term value shows that the variables that were not included in the econometric model have, as a whole, a negative effect on the evolution of CA.

The validity of this model can be sustained on account of low-probability, the standard errors and statistical tests applied.

From the model presented we can easily deduce that an increase in turnover is due to the correct acquisition of fixed assets, and the number of employees influences the value even more. Hiring a well-trained and experienced personal leads to an efficient use of fixed assets, thus ensuring an improvement in turnover.

#### CONCLUSIONS

Proper management of human and material resources generates an increase in turnover as demonstrated by empirical study. This is a consequence of the importance that companies attach to the principles of corporate governance and transparency of decisions based on clear rules and objectives. Shareholders thus see that their rights are protected by increasing the company's performance, the safety and efficient use of assets through better access to capital and better risk management. Also, distribution of roles and responsibilities of employees in a company and to maximize their professional experience and knowledge provides the company a definite performance and beneficial participation in decision making.

Corporate governance through its rules, systems and processes in place for establishing relations between shareholders, management, employees and other stakeholders associated with effective corporate management strategies, thus leading to increased economic performance of company in ethical and safety conditions.

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