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THE LINKAGE BETWEEN CORPORATE SOCIAL PERFORMANCE AND THE CORPORATE FINANCIAL PERFORMANCE IN THE INFORMATION AND COMMUNICATION TECHNOLOGY MULTINATIONAL COMPANIES OF ROMANIA

ABSTRACT. Managers are consistently faced with the decision of how to allocate scarce corporate resources in a demanding and highly competitive environment. Moreover, the economic crisis brings the strategic corporate concerns to a new level, where the profitability – social responsibility duality becomes even more controversial. Using regression analysis as in the methodology tested by Waddock and Graves (1997), this paper reports the results of a rigorous study of the empirical linkages between financial and social performance during 2005-2010 in the Information and Communication Technology (ICT) multinational companies of Romania. Aside from biased conclusions drawn by this research, top industries as ICT offer many fruitful opportunities towards sustainable development, especially on a frontier market as Romania.

JEL Classification: F230, M140, L250 **Keywords:** corporate social performance, corporate financial performance, ICT industry, multinational companies, Romanian business environment

Introduction

The paper broadly presents the ICT global development trends with focus on the Central and Eastern Europe and the Middle East and Asia (CEE/MEA) growing markets, in general, and, more specifically, on Romania, as an introductory premise to understand some important particularities of the sample of companies analysed in the next chapters.

Even though corporate social performance (CSP) and its related concepts – corporate social responsibility, corporate social responsiveness and corporate citizenship – have been presented in the academic literature for more than 45 years, CSP domain has remained controversial and to a largely extent equated to “doing good” (Wood, 2010).

The linkage between corporate social performance and corporate financial performance in the ICT multinational companies operating in frame of Romania`s business environment is

analysed following the research steps undertaken by Waddock and Graves (1997), adapted to the available Romanian domestic data.

By putting together a composite index on corporate social performance, this paper represents a pioneering initiative in reporting the results of the empirical linkages between financial and social performance in Romania.

General ICT development trends

In the report drawn by Business for Social Responsibility in 2008, there have been identified a series of trends like: pervasive computing, innovation in mobile technology, convergence in consumer products, dynamic access from PC to mobile handsets, convergence in service delivery, innovation in highly customized devices, consumer driven-evolution of the web, emerging markets, wireless-centric developing markets, which will lead to **increased competition** within the ICT sector, as companies are all looking to deliver an end-to-end converged product or service to their customers.

While the ICT industry has many opportunities to contribute to sustainable development, the issues where the ICT industry can make the most substantial contribution are: climate change, waste and material usage, access to ICT, freedom of expression, privacy and security, employee and customer relationships, supply chain, product use issues, economic development.

The reasons for which the research focuses on the ICT industry are related mainly on:

- *contagion effect of ICT growth*: significant macrolevel impacts of the technological progress across multiple development areas (Kauffman & Kumar, 2008);

- *mixed effects of the financial crisis* upon ICT: both as a rigorous enhancer towards cost control focusing investment on vital services and a facilitator of new opportunities for firms with disruptive technologies to innovate and thrive (International Telecommunication Union, 2009);

- *development of ICT literacy* as an institutional constraint in the educational sector and the human resource development at firm level (Educational Testing Service, 2002);

- increased ability of a country to lower its greenhouse and CO₂ emissions through the use of ICT, contributing to the *sustainable development* (Turner *et al.*, 2011).

Frantzen (2012) pencils the ICT market dynamics in the Central and Eastern Europe compared to the Middle East and Asia growing markets and focuses on the idea that IT spending is becoming more predictable in its growth, even though most of the CEE/MEA countries are still playing catch-up with West Europe average spending \$971/per Capita. Consistent with the key macro-trends shaping the CEE&MEA markets, ICT spending per capita has a geographically differentiated growth pattern (see *Figure 1*).

Overview of the IT&C Market in Romania

The IT environment in the public sector is still characterized by the absence of a single coordinated IT policy; therefore an interaction between different departments and services concerning the IT systems is extremely difficult and inefficient, for reasons not related to IT. Due to the poor transparency of decision making and bids, especially on a regional and local level, the local providers have been difficult to compete with, despite the official tenders (Pierre Audoin Consultants, 2011). As other EU countries, Romania, through all the public sub-segments (central and local administration, education, healthcare and defence), can benefit from a large amount of money for IT, but, due to the political instability and the very short-termed strategies aimed at showing immediate, public-sensitive results, most of the complex projects needed for an efficient public administration in Romania have not been

among the government's priorities; however, the 2007-2008 timeframe marked a revival of the interest in the implementation of informational systems aimed at developing and making the public administration management effective.

Spending on IT services in Romania in 2009 grew by 8.0% year on year in U.S. dollar terms to total \$509.75 million (Samson & Popescu, 2010). Measured in Romanian lei, the domestic IT services market was up 30.4% year on year in 2009 (Samson & Popescu, 2010). Most vendors reported their revenues in U.S. dollars, mainly because long-term IT services contracts are quoted in U.S. dollars and invoiced in lei at the currency rate of the invoicing date; this policy of IT services providers, meant to insure their protection against local currency fluctuations, led to an artificial increase of the market in local currency terms.

In the long term (2009-2014), IDC expects that **IT services spending will grow** (Samson & Popescu, 2010), but delayed economic recovery will ensure a slower increase in IT services spending than previously expected. Romanian IT spending per capita registered \$71, compared to the EU27 average (\$854) – see *Figure 1* (IDC, 2010). IT services spending in the business sector, mainly from telecoms and finance, is expected to take off as soon as the economy recovers, as increasing competition encourages IT investments that can increase efficiency (Samson & Popescu, 2010).

The link between corporate social performance and corporate financial performance

Many empiric papers focus on the relation between CSP and firm performance (FP). Orlitzky *et al.* (2003) performed a statistical meta-analysis of 388 results from 52 studies of CSP–FP relationships. They conclude that “the universally positive relationship varies (from highly positive to modestly positive) because of contingencies, such as reputation effects, market measures of CFP, or CSP disclosures” (p. 423). 50% of studies have shown evidence of a positive link between social and financial performance, 26% of studies have shown absence of a link, 18% of the studies have equivocal results and the remaining 6% certify the negative relationship between the two variables in the spirit of the classical theory of ownership (percentage calculated based on Margolis and Walsh, 2003). McWilliams *et al.* (2006) analysed a selection of papers that used either the event study methodology (analysis of short-run changes in stock prices as a proxy for firm performance in the aftermath of a CSR-related event) or regression analysis (accounting measure of profitability, such as return on assets, as the dependent variable in a regression model that explains firm performance) which “usually attempted to answer the question: *do firms do well by doing good?* The reported results have ranged from showing a negative relation between CSR and firm performance, to showing no relation, to showing a positive relation”. McWilliams and *al.* (2006) explained these conflicting results be a consequence of “inconsistency in defining CSR, inconsistency in defining firm performance, inconsistency in samples, imprecision and inconsistency in research design, misspecification of models, changes over time, or some more fundamental variance in the samples that are being analysed.” Performing a meta-analysis of 192 results from 167 CSP–FP studies, Margolis *et al.* (2007) did find a consistent positive relationship. They conclude (p. 22) as follows: “After 35 years of research, the preponderance of evidence indicates a mildly positive relationship between CSP and corporate financial performance.” In spite of long research history, the correlation between corporate social and financial performance has not been fully established and the nature of the relationship remains unresolved (Andersen and Olsen, 2011).

Wood (2010) reviews the literature on **corporate social performance** measurement by considering the “kinds of measures that have been and could be used to test propositions relevant to or resulting from Wood’s (1991) structural CSP model, as potentially modified by Kang (1995), Swanson (1995, 1999) and Mitnick (1993, 1995, 2000)”. Wood (2010) details

multi-categories of CSP measurement triggering: social reports, environmental reports, annual report social or environmental disclosures, multi-faceted corporate citizenship measure, KLD ratings (as Waddock and Graves, 1997), multi-faceted CSP measure: Stiller's Ethical Performance Scorecard (EPS), Canadian Social Investment Database (CSID) ratings, ARESE ratings, Vigeo ratings (Europe).

Waddock and Graves (1997) reports the results of a rigorous study of the empirical linkages between financial and social performance. For the construction of CSP index, Waddock and Graves (1997) draw upon the Kinder Lydenberg Domini (KLD) rating system, where each company in the S& P 500 is rated on multiple attributes considered relevant to CSP. Financial performance is calculated with accounting-based indicators, while size, risk, and industry are operationalized as control variables. Waddock and Graves (1997) hypothesize that CSP is both a predictor and consequence of firm financial performance. Regression analysis is used to test hypotheses, first using CSP as the dependent variable, while controlling for size, debt level, and industry, then using profitability as the dependent variable and employing the same control variables. Based on Waddock and Graves (1997) research "CSP is found to be positively associated with prior financial performance, supporting the theory that slack resource availability and CSP are positively related [...] positively associated with future financial performance, supporting the theory that good management and CSP are positively related."

Research Hypotheses

According to Waddock and Graves (1997), CSP is both a predictor and consequence of firm financial performance. That is, there is a simultaneous relationship, or a kind of 'virtuous circle', such that:

Hypothesis 1: Better financial performance results in improved CSP, ceteris paribus.

Hypothesis 2: Improved CSP leads to better financial performance, ceteris paribus.

Data and Methodology

The authors have used the methodology employed by Waddock and Graves (1997).

The sample consists of 73 ICT multinational companies, selected from the 169 major ICT companies advertised on the Major Companies in Romania website, by excluding domestic firms.

The sample encompasses only multinational companies, as pioneers of corporate social responsibility in Romania, which made possible the construction of the corporate social performance index in 2005-2010.

In order to quantify the social performance of the ICT multinational companies, we have taken into consideration the information published by companies on their websites, the e-data disseminated by the economic newspapers and the inputs generated by the stakeholders on the uncensored public website www.desprefirme.ro. All these sources of secondary data are the main constituents of the five attributes considered by the authors to estimate corporate social performance indicators (CSP). In addition, it should be mentioned that the CSR events analysed during 2005-2010 do not comprehensively reflect the CSR initiatives of the researched sample, as this type of information is not reported in a consolidated and transparent way by the Romanian companies.

Dependent variable

The composite index of CSP was built taking into account: the methodology proposed by KLD Research & Analytics Inc. (as described in Waddock and Graves, 1997), the economic, social, political and cultural characteristics of the Romanian market, corporate culture of the multinational companies.

Five of the eight rated attributes by KLD emphasize key stakeholder relations that might be included among those underlined as important emerging influences on corporate strategy, specifically: community relations, employee relations, performance with respect to the environment, product characteristics, and treatment of women and minorities. These five are rated on scales ranging from -2 (major concerns) to neutral to +2 (major strength). The three characteristics set aside encompass areas as military contracting, participation in nuclear power, and involvement in South Africa in which USA companies have received significant external pressures at that time. These areas are rated from -2 (major concern) to 0 (neutral) because KLD awards no positive assessment of activities in these domains. Raw CSP data were taken by Waddock and Graves from KLD as of 1990, when this type of issues were important and actual. The weight of those three attributes is zero for the Romanian ICT market. The non-involvement of the ICT companies based in Romania in research, design of power or nuclear weapons, in military operations or military contracts and in the enablement of the South African market, double checked also by the negative results obtained when performing Restricted Party List (RPL) screening, entitles the authors to exclude such attributes from the analysis, without influencing the quality of the research. The changes of the index composition and of the weights of the characteristics studied originally by Waddock and Graves in 1997 are shown in *Table 1*.

Table 1. The weights of the CSP attributes after eliminating three dimensions non-specific to the analysed sample so weighting factors sum stays 1

Attribute	Weight
Employee relations	0.225
Product	0.206
Community relations	0.198
Environment	0.190
Treatment of women and minorities	0.182

Source: personal contribution

Figure 2 (in Annex) gives a clearer picture of how the CSP indices of the seventy-three analysed multinational companies in the period of 2005-2010 oscillate in the range of [-0.43; 1.43] according to processed data. Some CSP indices calculated based on the readjusted KLD methodology have a zero value, because no information supporting the involvement of respective multinational companies in any of the five researched areas was publicly disclosed.

Control variables

Firm size was measured by total assets, number of employees and by total sales. As a proxy for the riskiness of a firm, we used the long-term debt to total assets ratio, as per Waddock and Graves (1997).

Financial Variables

Firm financial performance was measured using three accounting variables: return on assets, return on equity, and return on sales, providing a range of measures used to assess corporate financial performance by the investment community. We have used accounting data from the period 2005-2010, as they were publicly available on the website Major Companies in Romania, on the Financial Profile section of Company X, where X represents each company in the studied sample. For the creation of the profitability derived indices, as per the financial equations, we used the following indicators of the balance sheet: total assets, total equity, total debt and indicators of the Profit and Loss Account: turnover, net profit, number of employees.

Analysis

Regression analysis was used to test our hypotheses, first using CSP as the dependent variable, while controlling for size (three size measures were used: total sales, total assets, and number of employees), debt level, then using profitability as the dependent variable and employing the same control variables.

The purpose of this analysis is to identify whether there is a relationship between the social and financial performance of a company. Thus, we considered the social performance of multinational companies in the ICT sector as being represented by the composite index CSP, estimated by a method similar to that used by KLD and the corporate performance - the equity, capital and assets profitability.

We want to mention that we will detail the econometric results for the period 2009-2010; despite the fact that, generally, it is expected that the results obtained after July-August 2007 be influenced by systemic risk factors, respectively specific risk: *the financial crisis*, but also by the *industry specific problems or difficulties affecting each company* from the panel, duplicating this analysis to pairs of years 2005-2006, 2006-2007, 2007-2008, 2008-2009 we observed similar conclusions as the ones drawn in 2009-2010. Results are relevant, especially when taking into account the low penetration of CSR at the strategic level of the ICT companies (Stancu and Olteanu, 2008) and the tedious development in the reporting of corporate governance and of economic and social initiatives in the Romanian market (Herzig and Schaltegger, 2011).

Table 2 shows the results of the multivariate regression analysis using the social performance CSP2009 as dependent variable and the financial performance, with the corresponding accounting indicators, as independent variable, including the risk and the size control variables for 2008. Thus, in the models 1-3, the independent variable is represented by the return on assets (ROA), in the models 4-6 by the return on equity (ROE) and in the models 7-9 by the economic profitability (ROS) together with the debt/assets and the company size as control variables. As shown in the table below, most of the models are significant at the general level of $p < 0.001$, except for models 6 and 9, when the independent variable is ROE (having the number of employees as the control variable) and ROS (with the number of employees as the variable control). Although the overall regression model is good, the results obtained in Table 2 show that the financial independent variable does not affect the dependent variable.

The results indicate a neutral scenario. Although using the least squares method we validated that the majority of multiple linear regression models are good (the F statistic is quite large, with a very small p-value associated - in most models: $p < 0.001$), the probability $p > 0.5$ for the estimated coefficient of financial profitability is the crucial factor for not accepting the fact that the test t applied on the independent variables leads to the rejection of the null hypothesis in models 1, 3-9; therefore, for these latter models, ROA, ROE and ROS

do not influence the evolution of the corporate social performance index in the following year $t + 1$ (lag = 1). Hypothesis 1 is not confirmed for Models 1, 3-9.

However, as it can be seen in Model 2, the results are significant at $p < 0.01$ when the financial variable used is ROA, with a coefficient of 0.264883, standard error: 0.150966 and associated p value rather low, $p = 0.0844$. Company size captured by control variables: total assets and total sales influences the dependant variable in all models of *Table 2*.

Tabel 2. Multivariate regression analysis using the social performance CSP2010 as dependent variable and the 2009 financial performance data as independent variables

2009-2010			
<i>Dependent variable:</i>			
<i>Corporate social performance (2010)</i>	Model 1	Model 2	Model 3
Independent variable: ROA	0.17	0.264*	0.054
<i>Control variables</i>			
Debt/total assets	0.015	0.005	-0.020
Log(Total sales)	0.1***		
Log(Total assets)		0.086***	
Number of employees			7.96E-05**
R^2	0.27	0.251	0.143
$Adj. R^2$	0.234	0.251	0.1
F	7.54***	6.843**	3.395*
	Model 4	Model 5	Model 6
Independent variable: ROE	1.01E-05	0.0003	0.0002
<i>Control variables</i>			
Debt/total assets	-0.024	-0.02	-0.011
Log(Total sales)	0.094***		
Log(Total assets)		0.075***	
Number of employees			7.94E-05**
R^2	0.252	0.153	0.145
$Adj. R^2$	0.216	0.108	0.102
F	6.884***	3.434*	3.449*
	Model 7	Model 8	Model 9
Independent variable: ROS	0.032	0.101	0.066
<i>Control variables</i>			
Debt/total assets	-0.003	-0.015	0.128
Total sales	0.094***		
Total assets		0.077***	
Number of employees			7.99E-05**
R^2	0.255	0.236	0.150
$Adj. R^2$	0.218	0.198	0.109
F	6.965***	6.281***	3.612**

* $p < 0.1$; ** $p < 0.01$; *** $p < 0.001$

Source: data processing

Based on these findings, we developed a **new model** for the period of 2007-2010, with a total of 40 companies from the initial sample, after companies missing either financial or CSP data were eliminated. Results for 2005-2006 were removed, in order to keep a solid and representative sample (most of the ICT companies did not report CSP attributes in 2005, 2006; hence many zero CSP values during the 2 year interval). Method used was Pooled Least Squares (see *Table 4*, in Annex).

Hypothesis 1': Increased ROA leads to improved CSP, based on firm size (estimated with control variable total assets) and CSR tradition of the firm.

Equation:

$$CSP_t = 0.055*ROA_t + 0.032 *lg(ASIZE_t) + 0.687*CSP_{t-1} - 0.408$$

p>0.1
p<0.01
p<0.001
p<0.01

R²: 0.571

F: 51.61 (p<0.0001)

DW: 1.80

With a reasonably high R², high F with associated p<0.0001, the model is validated. The high p value correspondent to ROA leads to the rejection of the Hypothesis 1', but we can however state that **CSP is significantly influenced by the company size and the CSR tradition.**

A second hypothesis states that the improvement of corporate social performance results generates financial performances. Using the data reported a year later (lag = 1), ROA (model 1-3), ROE (model 4-6) and ROS (model 7-9) correspond to the accounting results of 2010 and the independent variable CSP to composite index of 2009, as well as the control variables (the risk aversion of the management and the company size). According to the results in *Table 3*, the models are not valid in any of the described Models of *Table 3*, having a low F statistic value with a high associated p-value. Even though the model is weak, we can observe a negative association between investing in CSP and profitability, consistent with Friedman's (1970) and other neoclassical economists' arguments – there are few readily measurable economic benefits to socially responsible behaviour while there are numerous costs.

Hypothesis 2 is not confirmed.

Table 3. Regression analysis with 2010 financial performance (profitability) as dependent variable and 2009 CSP as the key independent variable with 2009 financial control variables

2008-2009			
<i>Dependent variable: Return on assets</i>	Model 1	Model 2	Model 3
Independent variable: CSP2008	-0.193	-0.176	-0.252
<i>Control variables</i>			
Debt/total assets	-0.264	-0.260	-0.258
Log(Total sales)	-0.009		
Log(Total assets)		-0.015	
Number of employees			-2.42E-05
R ²	0.04	0.04	0.044
Adj. R ²	-0.004	-0.003	-0.002
F	0.903	0.931	0.948
<i>Dependent variable: Return on equity</i>	Model 4	Model 5	Model 6
Independent variable: CSP2008	-0.599	-0.702	-0.506
<i>Control variables</i>			
Debt/total assets	-0.024	-0.056	-0.018

Total sales	0.083		
Total assets		0.117	
Number of employees			7.29E-05
R^2	0.020	0.039	0.018
Adj. R^2	-0.027	-0.008	-0.030
F	0.435	0.828	0.376
Dependent variable: Return on sales	Model 7	Model 8	Model 9
Independent variable: CSP	2.223	2.248	1.836
<i>Control variables</i>			
Debt/total assets	0.577	0.639	0.584
Total sales	-0.207		
Total assets		-0.203	
Number of employees			-7.50E-05
R^2	0.027	0.029	0.022
Adj. R^2	-0.028	-0.018	-0.025
F	0.569	0.607	0.468

Source: data processing

Conclusions and future research

This research attempted to answer the perpetual question whether a company's social performance is related to the financial performance and if so, what is the direction of causality this phenomenon: slack resources theory or good management theory.

The present study validates the neutral association scenario. Therefore, the research hypotheses are not confirmed.

Based on this research, we can state that within the ICT multinational companies of Romania studied in 2005-2010:

Conclusion 1: Improved financial performance does not necessarily lead to better corporate social performance (CSP), *ceteris paribus*.

Conclusion 2: Improving CSP does not necessarily lead to better financial performance, *ceteris paribus*.

Beyond the heterogeneous nature of the country of origin of the multinational companies within the sample (only 23% originate in the U.S.), the different levels of adoption and assimilation of the corporate social responsibility practices, the managers' profiles adhering or not to signing a "social contract" with the stakeholders, we could conclude that the results do not propagate a negative message, on the contrary, they enforce the need for companies "to integrate social, environmental, ethical human rights and consumer concerns into their business operations and core strategy in close cooperation with their stakeholders" for the right reasons (European Commission, 2011).

The authors consider that there is a disruption in the relationship between *the management of limited resources* and *the efficient management in the spirit of CSR*, due to the insufficient applicative knowledge of the principles and good practices of the corporate social responsibility, the lack of transparency in terms of reporting and disseminating the social engagement by companies, the relatively low activity of non-governmental organizations and other institutions aiming to persuade the economic actors of the need for ethical and

responsible behaviour, beyond the "insurance policy" value in case of corporate social irresponsibility.

ICT sector has been identified as a "major mechanism for responding to societal challenges", a potential "major player in the fight against climate change – in particular its role in improving energy efficiency, and as the engine for sustainable growth in a low carbon economy because of improved information transparency" (European Commission Research Directorate-General, 2007). Taking into consideration the ICT trends and future prospects (Martinuzzi *et al.*, 2011) corroborated with the results of this paper which validates that the size of a company and the tradition in implementing CSR are predictors for future corporate social performance of that company, there must be drawn up a consolidated corporate governance strategy towards CSR to enable good players to continue and get better at performing as such in order to be better equipped to deal with the upcoming challenges and lead the way to a more sustainable industry.

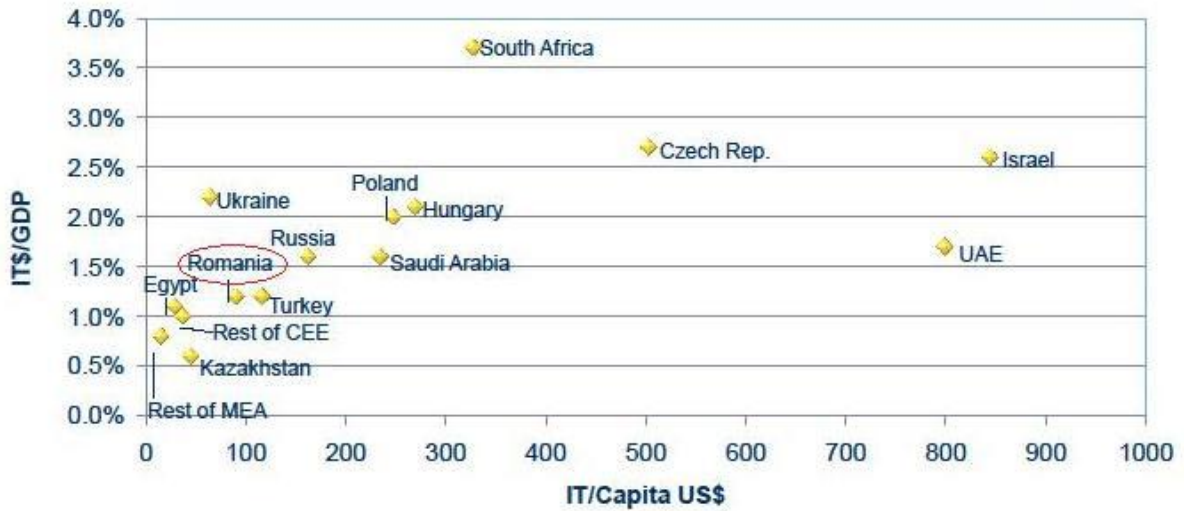
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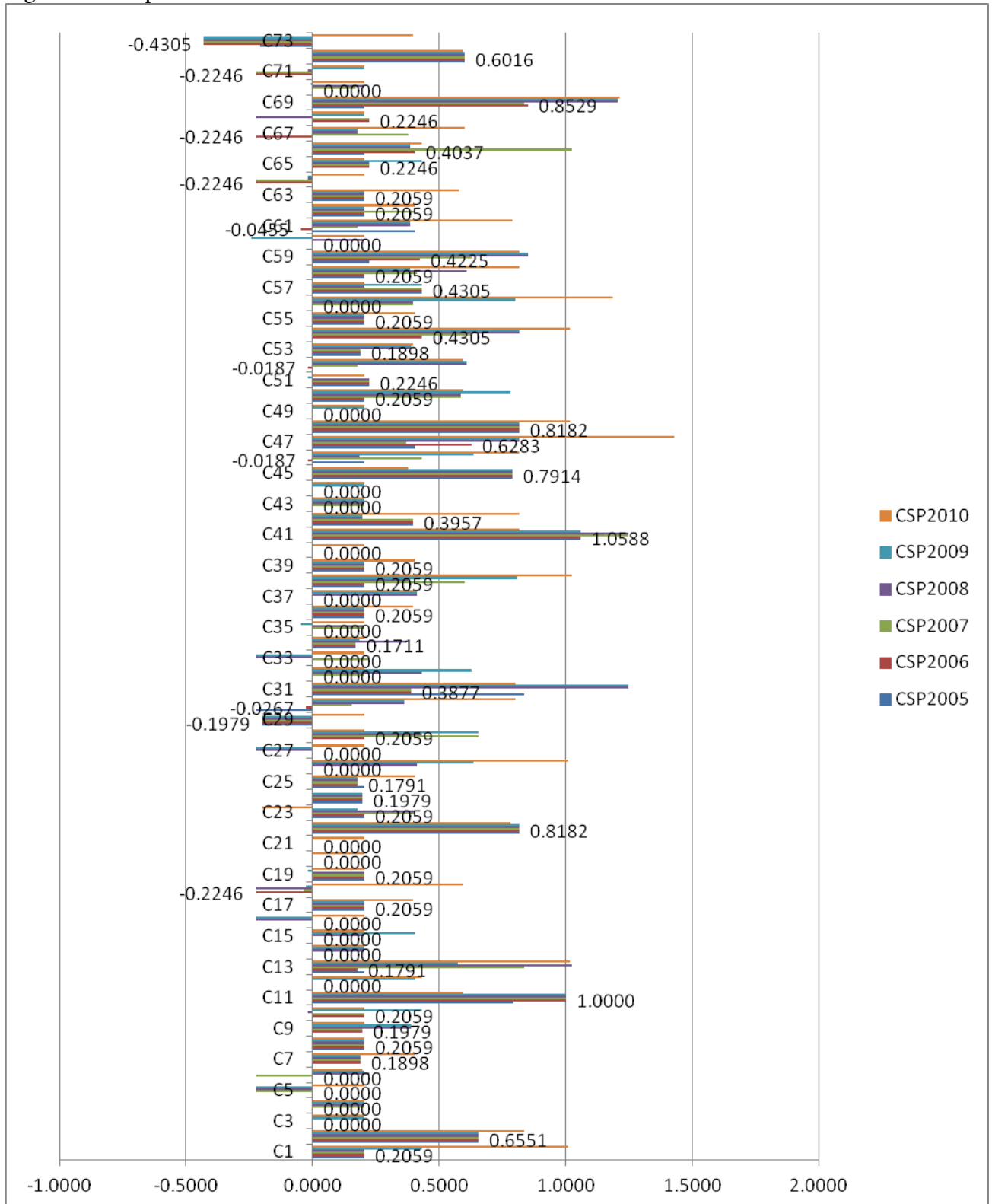
Annex

Figure 1. IT Spending Ratios in CEE & MEA. Disparities in Maturity Levels (2010)



Source: Frantzen (2012) based on IMF (April 2011) and IDC (Worldwide Quarter1 2011 Blackbook), GDP in current prices

Figure 2. Comparative evolution of CSP in 2005-2010



Source: based on processed results

Table 4. Testing Hypothesis 1'

Dependent Variable: ?CSP				
Method: Pooled Least Squares				
Date: 02/12/13 Time: 20:07				
Sample(adjusted): 2008 2010				
Included observations: 3 after adjusting endpoints				
Number of cross-sections used: 40				
Total panel (balanced) observations: 120				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.408142	0.204875	-1.992152	0.0487
LOG(?ACT)	0.032091	0.012243	2.621168	0.0099
?CSP(-1)	0.687028	0.078899	8.707750	0.0000
?ROA	0.055326	0.120575	0.458850	0.6472
R-squared	0.571696	Mean dependent var	0.390619	
Adjusted R-squared	0.560619	S.D. dependent var	0.353361	
S.E. of regression	0.234228	Sum squared resid	6.364102	
F-statistic	51.61181	Durbin-Watson stat	1.809514	
Prob(F-statistic)	0.000000			

Source: based on processed results