Transparency in European banking system – a technical and economic approach

Ștefănescu Cristina Alexandrina [1]

The objective of our paper is to provide a comprehensive analysis of possible relationships between two different approaches of "transparency" – the technical vs. the economic one. Thus, irrespective of prior literature, our paper goes beyond a "solo" analysis of either of two above-mentioned "facets", by providing a combined study. So, we focused on both (1) XBRL's role in enhancing the quality of disclosure, by assessing its benefices and consequences and (2) corporate governance mechanism's power to improve efficiency and effectiveness of banking supervision by encouraging transparency.

The results of the performed analysis generally reveal that there is a strong and positive relationship between the level of disclosure promoted by corporate governance codes enforced in European Union countries and the degree of implementation of both XBRL-based projects designed for banking environment (FINREP and COREP). Consequently, we can assert that there is a consensus between the economic and technical approach of transparency in European banking system

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[1] Babeş-Bolyai University, Cluj-Napoca, Romania, cristina.palfi@econ.ubbcluj.ro

I. Introduction

"The absence of effective market discipline against hazardous bank behavior due partly to the lack of transparency and disclosure of relevant information" was one of the main causal factors of the financial distress that recently affected the worldwide economy (Llewellyn, 2002). Also, according to the agency theory, a good corporate governance system providing transparent information appears to be key issue in ensuring stability to the financial sector and sustainability to economy, as whole. Consequently, disclosure and transparency play an important role in ensuring market discipline in banking environment. Moreover, a unique standard for electronic exchange of financial information on a worldwide level in order to increase transparency became necessary, especially in banking environment, which was the most affected by the latest financial crisis due to "opaque" reporting. The universal standard for global business reporting, considered an emerging technology that has the potential to play an important role in this respect is the e-Xtensible Business Reporting Language (XBRL) (Doolin and Troshani, 2004).

Basing on this background, our paper proceeds as it follow:

Firstly, we briefly review prior literature focusing on both approaches of "transparency" – the economic vs. the technical one. Thus, from the economic perspective, we highlighted the importance of "transparency", the lack of an appropriate disclosure being often considered as one of the major cause of the latest corporate scandals and governance failures, adversely affecting public confidence in the reliability of corporate and financial reporting, too. On the other hand, from technical perspective, introducing the two XBRL-based projects called COmmon REPorting (COREP) and FINancial REPorting (FINREP) came as a necessity for banking environment where good quality, timely and relevant information needed to be available to all interested parties for ensuring market discipline.

After providing information about the sample of our analysis and explaining the research methodology used, consisting of correlation and descriptive analysis, we provide our research findings and discuss their implications, thus concluding that we assisted at a "wake-up" call for better governance and transparency actually materialized in requirements and recommendations for improving corporate governance system through enhanced disclosure, basing on the premises that "the higher the level of transparency, the better the quality corporate governance practices", the eXtensible Business Reporting Language (XBRL) playing a major role in this respect.

II. Literature Review And Hypotheses Development

"Transparency" generally implies accountability, openness and communication. Accountability through transparency is the key issues of the market discipline concept. By accountability it is expected that bank's management acts in the best interests of outside stakeholders, while by transparency it is expected that a bank discloses sufficient information so as to allow these stakeholders to make informed judgments as to whether the bank is acting in their best interests.

According to the Basel Committee on Banking Supervision, "*transparency"* is defined as "the public disclosure of reliable and timely information that enables users of that information to make an accurate assessment of a bank's financial condition and performance, business profile, risk profile and risk management" (BCBS, 1998).

Prior evidences reveal that improved transparency brings advantages to all parties involved in banking environment: financial institutions, banking supervisors and market participants, by providing a disciplining mechanism allowing bank supervisors to perform better monitoring and take earlier wealthy actions (Linsley and Shrives, 2005;

Flannery, 2001), whereby banks having inadequate performance or risk profile can be sanctioned (Flannery and Sorescu, 1996).

On the other hand, through great transparency depositors welfare might be reduces and as a consequence they may overreact, being tempted to withdraw their money, thus increasing the chance of an inefficient contagious run on other banks (Chen and Hasan, 2006). Consequently, full transparency of bank risks, could lead to bank failure due to the increasing interest on deposits that banks have to pay in the riskier state (Cordella and Yeyati, 1998) and the impossibility of raising the necessarily capital (DeCeuster and Masschelein, 2003).

Despite the above stated "contra" arguments for improving transparency, that might negatively affect the fragility of banking system, especially in case of temporary problems that a bank might face up, increasing the level of disclosure ends up into positive consequences such as reducing information asymmetries, thus promoting a sound and safer banking system (Podpiera, 2006; Nier and Baumann, 2006; Demirguc-Kunt et al., 2008) and ensuring capital market benefits. Thus, it decreases the cost of equity capital (Poshakwale and Courtis, 2005), attracts more foreign portfolio investment (Gelos and Wei, 2004), lowers corporate credit spreads and borrowing costs (Glennerster and Shin, 2004; Yu, 2005).

The most prominent way of increasing the transparency of financial institutions is the disclosure of information in published reports. For facilitating this, a new communication language called XBRL, based on XML technologies was developed, aiming to simplify the exchange, consolidation and analysis of information by sending and receiving business or financial data in a standardized way, thus increasing both level and quality of disclosure. So, this "search-facilitating technology" (Hodge, et at., 2004) aids any user because "documents can be prepared efficiently, exchanged reliably, published more easily, analyzed quickly, and retrieved by investors simply" (Malhotra and

Garritt, 2004), thus improving transparency of reporting in general. Thus, adopting XBRL facilitates communications, increases transparency through timely presentation, accurate, reliable, continuous and uniform reporting (Zabihollah and Turner, 2004; Bovee, et al., 2002), conferring as well positive economic consequences and capital market benefits due to the reduced levels of information asymmetry (Debreceny, et al., 2010; Premuroso and Bhattacharya, 2008; Bartley, et al., 2011).

As a consequence, we have recently assisted to various actions of global regulatory bodies in providing their support for and involvement in XBRL adoption, that may be viewed as part of a global effort to link improved corporate governance and transparency through the adoption of XBRL for business reporting.

Prior evidences reveal that the early adoption of a technology that yields greater transparency, such as XBRL, also signals superior corporate governance (Premuroso and Bhattacharya, 2008; Debreceny, et al., 2005), disclosure practices thus becoming an important component and a leading indicator of governance quality (Aksu and Kosedag, 2006). Therefore, good corporate governance mechanisms are expected to be more transparent due to their incentives of more informative disclosures (Beeks and Brown, 2006). Of great importance in building strong governance systems are corporate governance codes issued and their legal provisions required. Thus, recently we have assisted to a continuous development of national corporate governance codes especially in those countries with weak shareholder protection, high government liberalization and a strong presence of foreign institutional investors (Aguilera R and Cuervo-Cazurra, 2004). Hence, both institutional and market pressures play a role in spreading the good corporate governance codes (Yoshikawa and Rasheed, 2009).

Basing on this background, we aimed to approach transparency from both perspectives discussed above - the economic vs. the technical

one, through an empirical analysis designed to accept or reject the following research hypothesis:

(H): "Is there any relationship between transparency in the light of corporate governance principles and the adoption of XBRL-frameworks for financial reporting (FINREP) and prudential reporting (COREP)?"

III. Empirical design and results

The aim of our study is to provide an answer to our research question by assessing the relationship between the two sides of "transparency" approached within this paper. Thus, from the economy perspective, we analyzed transparency from corporate governance codes requirements in relation to OECD's recommendations, which highlights that "corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership and governance of the company" (OECD, 2004). From technical perspective, considering XBRL's power to improve the quality, integrity and transparency of information used for decision-making in a cost-effective, time-efficient manner, we focused our attention on FINREP and COREP frameworks adoption.

Consequently, two variables measuring both facets of "transparency" were needed for performing the correlation analysis proposed:

- *XBRL_CorpGov* for measuring the economy side of transparency, reaching up to "6" value. It reveals the level of transparency required through corporate governance codes in force in each EU member state, expressed by any references related to high quality standards of accounting for disclosures, foreseeable risk factors to be disclosed, channels provided for disseminating information, requirements upon equal, timely and cost-efficient access to information, minimum information to be

disclosed required as mandatory and voluntary disclosure encouragement.

- *XBRL_Transp* for measuring the technical side of transparency, reaching up to "14" value. It reveals the use of XBRL-based projects for financial / prudential reporting (FINREP_Non_core; FINREP_Core; COREP). Each variables takes "0" value for not applied, "1" value for partially used and "2" value for fully used. For measuring the use of prudential reporting, we assessed all components of COREP reporting: capital adequacy, group solvency, credit risk, market risk and operational risk.

Both variables were computing by treating all disclosed information as a whole (*see Appendix 1*), thus each disclosure index (*XBRL_CorpGov* and *XBRL_Transp)* being calculated according to the following formula:

$$DisclosureIndex_j = \frac{\sum_{i=1}^{n_j} X_{ij}}{n_j}$$

where:

- $DisclosureIndex_j$ – is the aggregate disclosure score for each sampled country;
- X_{ij} – takes 1 value if the i^{th} *item* is disclosed or 0 value if i^{th} *item* is not disclosed;
- n – represents the number of items expected to be disclosed by j^{th} *country* (is the maximum score that a country can achieve).

The sample of our analysis consisted of all 27 European Union member states, data collection being based on information for the year

2012, provided by European Central Bank (ECB), Committee of European Banking Supervisors (CEBS) and European Banking Authority (EBA) websites.

For achieving our main goal, firstly, we briefly presented an overall image upon the development and adoption of both corporate governance codes and XBRL-based projects for reporting.

Thus, the first corporate governance code was issued in US in 1978, aiming to improve the quality of corporate governance by endowing management with substantial responsibilities. Along time, due to continuous issuance of such codes also appeared the necessity of their convergence. Of great importance in this respect were the principles of corporate governance issued in 2004 by the Organisation for Economic Co-operation and Development (OECD). These were often appreciated as a valuable tool for the development of an international common language necessary for promoting better corporate governance worldwide. As regards transparency, OECD's framework issued a particular principle especially dedicated for enhancing it, through increased disclosure.

On the other hand, since 2005, two frameworks for special reporting applicable to credit institutions were issued by the Committee of European Banking Supervisors (CEBS). Based on XBRL technology, FINREP and COREP were designed to enhance transparency in European banking system through timely, accurate, reliable, continuous and uniform financial and prudential reporting.

Considering the continuous improvements made for enhancing transparency worldwide, resulting in the development of both national corporate governance codes and reporting frameworks for banking institutions in Europe, we were wondering if there is a link between these in European banking system, thus raising our research question: "Is there any relationship between transparency in the light of corporate governance principles and the adoption of XBRL-frameworks FINREP and COREP".

For performing the correlation analysis designed to test our hypothesis, whose results are detailed in Table 1, we calculated Pearson coefficient that is usually used for measuring the strength of linear dependence between two variables, giving a value between "1" describing the perfect direct relationship and "-1" revealing an indirect one, "0" value meaning that there is no linear correlation between variables.

This correlation analysis provides us information upon the direction and significance of influences between the variables analysed, thus allowing us to accept or reject the hypotheses formulated.

Table 1

The correlation matrix between variables

		Transp_ CorpGov
Transp_ XBRL	Pearson Correl.	.644
	Sig.(2-tailed)	.000
	N	27

***. Correlation is significant at the 0.01 level (2-tailed).*

Source: calculations made using SPSS software

Table 2.

Linear regression analysis results

	Unstand. / Stand. Coeff.			t	Sig.	R.Sq.	Adj.R.Sq.	F value
	B	Std error	Beta					
Transp_XBRL								
(Constant)	.290	.080		3.620	.001			
Transp_CorpGov	.634	.151	.644	4.207	.000	.414	.391	17.698

Source: calculations made using SPSS software

Pearson coefficient values reveal a strong and positive relationship between variables tested having a high probability of significance of 99% (Sig. <0,01) and a upper-medium intensity (0,644), which is explained in around 41,4% of cases, according to the linear regression results presented in Table 2.

In conclusion, the level of disclosure promoted by corporate governance codes enforced in European Union countries and the degree of implementation of both XBRL-based projects designed for banking environment (FINREP and COREP) are closely related. Thus, a consensus between the economic and technical approach of transparency in European banking system was demonstrated.

IV. Conclusions, limitations and perspectives

Transparency in business environment is mainly related to the extent to which investors have ready access to any required financial information about a company such as price levels, market depth and audited financial reports, being one of the silent prerequisites of any free and efficient market. XBRL is a language for the electronic communication of business and financial data which is revolutionizing business reporting around the world and plays a major role in facilitating the preparation, analysis and communication of business information. It offers cost savings, greater efficiency and improved accuracy and reliability to all those involved in supplying or using financial data (XBRL US, 2008). Consequently, it meets all requirements needed in order to promote greater transparency of corporate strategy and performance through a unique framework for presentation and disclosure of both financial measures and qualitative information.

By approaching XBRL – the extensible economic reporting language for collecting information on business processes, our paper comes to underline the importance of technology in enhancing transparency,

thus improving efficiency and effectiveness of banking supervision. Thus, the two XBRL-based projects of the Committee of European Banking Supervisors - COmmon REPorting (COREP) and FINancial REPorting (FINREP) – are of great importance in this respect, facilitating information communication in a homogeneous way and contributing to the completeness, accuracy and reliability of disclosures.

Irrespective of prior research studies that approached "transparency" concept, which either were focused on XBRL by pointing out its role in enhancing the quality of disclosure, assessing its benefices and consequences, or on corporate governance mechanism and its power to improve efficiency by encouraging transparency, our paper comes to add value to research literature through various perspectives.

Firstly, our main objective goes beyond a "solo" analysis of either of two above-mentioned "facets" of transparency, by considering the possible relationships between these and assessing them properly.

Secondly, our results come to enrich the research literature, being also a useful source of reflection for practitioners involved in financial environment, the analysis performed on this particular business field being complex and inter-disciplinary by combining economic and technical approaches of the same concept – "transparency".

For performing the proposed analysis we used various statistical tools (descriptive statistic and correlation tests), thus allowing us to provide a comprehensive analysis of the degree of transparency recommended through corporate governance codes and reporting frameworks' implementation in Europe, as well as to identify possible correlations among them, when putting the data into SPSS software. The use of statistical software for performing our analysis ensures transparency and relevance to our results, while data processing is accurate and controllable.

The results of the performed analysis generally reveal that there is a strong and positive relationship between the level of disclosure

promoted by corporate governance codes enforced in European Union countries and the degree of implementation of both XBRL-based projects designed for banking environment (FINREP and COREP). Thus, the anticipated results were totally confirmed by the correlation tests performed using Pearson coefficient, its values being statistically significant in order to allow us accepting the hypothesis derived form our research questions. Consequently, we can assert that there is a consensus between the economic and technical approach of transparency in European banking system.

In the end, being aware of our study's limitations, coming from the sample selected, the variables analyzed and the fact that only one years' data were considered for analysis, as well as from the statistical methods used based only on descriptive analysis and correlation tests, we are appreciating these as a challenge that give us outlooks for future research.

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Appendix 1

XBRL_Transp and XBRL_CorpGov

Country	FINREP			COREP						*Transp_XBRL*							*Transp_CorpGov*	
	Core	Non–core	Tot	CA	GS	CR	MR	OP	Tot	**TOT**	**Index**	AS	RF	MD	VD	CH	TM	**TOT**	**Index**
Austria	2	1	3	2	2	1	1	1	7	**10**	**0.71**	1	0	1	1	1	1	5	**0.83**
Belgium	2	2	4	2	2	1	1	1	7	**11**	**0.79**	0	1	0	1	1	1	4	**0.67**
Bulgaria	2	2	4	2	2	2	2	2	10	**14**	**1.00**	0	1	1	1	1	1	5	**0.83**
Cyprus	0	0	0	2	2	2	2	2	10	**10**	**0.71**	0	1	0	1	0	1	3	**0.50**
Czech	2	1	3	1	0	1	1	1	4	**7**	**0.50**	1		0	1	0	1	3	**0.50**

Rep.																			
Denmark	0	0	0	0	0	1	0	1	2	**2**	**0.14**	0	0	0	0	1	0	1	**0.17**
Estonia	2	0	2	2	0	1	1	1	5	**7**	**0.50**	0	1	0	0	1	0	2	**0.33**
Finland	0	0	0	1	0	1	1	2	5	**5**	**0.36**	0	0	0	0	1	1	2	**0.33**
France	2	1	3	1	0	1	1	1	4	**7**	**0.50**	0	0	1	0	1	1	3	**0.50**
Germany	0	0	0	2	0	1	1	1	5	**5**	**0.36**	0	0	0	0	1	0	1	**0.17**
Greece	2	0	2	2	0	2	2	1	7	**9**	**0.64**	0	1	1	0	1	1	4	**0.67**
Hungary	0	0	0	1	1	1	1	2	6	**6**	**0.43**	0	0	0	0	0	1	1	**0.17**
Ireland	2	1	3	2	2	2	2	2	10	**13**	**0.93**	0	0	0	0	0	0	0	**0.00**
Italy	1	1	2	1	1	1	1	1	5	**7**	**0.50**	1	0	0	0	1	1	3	**0.50**

Latvia	1	0	1	2	0	1	1	1	5	**6**	**0.43**	0	0	0	0	0	1	1	**0.17**
Lithuania	2	2	4	2	2	2	2	2	10	**14**	**1.00**	0	1	1	1	1	1	5	**0.83**
Luxembourg	2	1	3	1	0	1	1	1	4	**7**	**0.50**	0	0	1	0	1	1	3	**0.50**
Malta	0	0	0	1	2	1	0	2	6	**6**	**0.43**	0	1	0	0	1	0	2	**0.33**
Netherlands	2	1	3	2	2	2	2	1	9	**12**	**0.86**	0	1	0	1	1	1	4	**0.67**
Poland	2	1	3	2	2	2	2	2	10	**13**	**0.93**	0	1	1	1	1	1	5	**0.83**
Portugal	0	0	0	2	0	1	1	2	6	**6**	**0.43**	1	0	0	0	0	1	2	**0.33**
România	2	0	2	1	2	1	1	2	7	**9**	**0.64**	1	1	0	0	1	1	4	**0.67**
Slovakia	2	1	3	1	0	1	1	1	4	**7**	**0.50**	0	1	1	0	1	0	3	**0.50**

Slovenia	1	0	1	1	0	2	2	1	6	**7**	**0.50**	0	0	0	1	1	1	3	**0.50**
Spain	2	1	3	2	2	2	2	2	10	**13**	**0.93**	0	1	1	0	1	1	4	**0.67**
Sweden	2	0	2	2	0	1	1	1	5	**7**	**0.50**	1	0	0	0	1	1	3	**0.50**
UK	0	0	0	2	0	1	1	1	5	**5**	**0.36**	0	1	0	0	0	1	2	**0.33**

Abreviations:

CA (capital adequacy); GS(group solvency); CR(credit risk); MR(market risk) and OR (operational risk)

AS (high quality standards of accounting for disclosures); RF (foreseeable risk factors to be disclosed);

MD/VD (minimum information to be disclosed required as mandatory / voluntary disclosure encouragement),

CH (channels provided for disseminating information);

TM (requirements upon equal, timely and cost-efficient access to information)