

XBRL-Based Projects for Financial and Prudential Reporting – an Empirical Analysis in European Banking System

Cristina Stefanescu¹

Abstract: Our paper approaches the extensible economic reporting language for collecting information on business processes, namely XBRL by analyzing its implementation in the European banking environment, closely related to the adoption of International Accounting Standards and Financial Reporting (IAS/IFRS). Our research problem mainly came from the accounting development issue, which is an evolutionary process dependent upon several factors. On the other hand, improving banking supervision on information reporting is a problem that needed special attention in order to increase its efficiency and effectiveness, especially in the latest period sprinkled with various banking failures. The results of the performed analysis using various statistical tools (descriptive statistic and correlation tests) reveal that the implementation of both XBRL-based projects (FINREP and COREP) is independent of a fully or partially adoption of IAS/IFRS, while the financial and prudential reporting frameworks are mainly inter-related. Thus, our paper came to point out XBRL's major role in facilitating information communication in a homogeneous way that will allow the interchange of data between software applications, as well as the automatic analysis of financial information in a particular business field, the banking one.

Keywords: XBRL; financial reporting; prudential reporting; banking system; European Union

JEL Classification: M10; G30

Introduction

eXtensible Business Reporting Language (XBRL), the universal standard for global business reporting, is considered an emerging technology that has the potential to play an important role in the production and consumption of financial information (Doolin and Troshani, 2004). Even the world leaders of accounting profession - the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) agreed that XBRL is the best solution to electronically express certain aspects of existing accounting standards, in an organized manner that is understandable to individuals and computer programs (Lin, et al., 2005). Thus, by providing interactive financial data through a “tagging” process, XBRL gradually became a standard for the distribution of business reporting data (Piechocki, et al., 2009), offering as well cost savings,

¹ Assistant Professor, PhD, Babeş-Bolyai University, Romania, Address: 1 M. Kogalniceanu Str., 400084 Cluj-Napoca, Romania, Tel.: +40264418652, Corresponding author: cristina.palfi@econ.ubbcluj.ro.

greater efficiency and improved accuracy and reliability to all those involved in supplying or using financial data.

In banking environment, XBRL language was chosen in 2004 by the Committee of European Banking Supervisors (CEBS) as a way of communication between financial entities and national supervisory authorities, aimed “to promote stability and solvency of the financial system at European level.” (Bonson, et al., 2007) Being appreciated as a widely known and technically tested digital standard, XBRL supports this new approach of “transition from an information economy to a knowledge-based economy, providing the necessary platform” (CEBS, 2012).

Introducing the two XBRL-based projects called COMmon REPorting (COREP) and FINancial REPorting (FINREP) came as a need for banking environment where good quality, timely and relevant information needs to be available to all interested parties for ensuring market discipline.

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

Firstly, we briefly review prior literature concerning eXtensible Business Reporting Language (XBRL), by pointing out its strengths and benefits, as well as impediments encountered along with its worldwide adoption. Than, by highlighting its major role in ensuring appropriate financial and prudential reporting through FinRep-CoRep project, we defined our research goal - to provide an analysis of both financial and prudential reporting frameworks implementation in banking system at European Union level, by reference to international standards. 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.

Literature Review

Our research problem mainly came from the accounting development issue, which is an evolutionary process dependent upon several factors and interwoven with economic development. Anyway, the need of accounting harmonization and convergence through a unique set of international accounting standards it is widely recognized, but unfortunately it is still an on-going process. Besides the unique way of structuring the information provided by companies, another issue arose – the dissemination of accounting information by means of Internet, which became one of the most discussed research topic in this field.

On the other hand, improving banking supervision on information reporting is a problem that needed special attention in order to increase efficiency and effectiveness of surveillance process, especially in the latest period sprinkled with various banking failures.

Thus, reporting in banking environment has to meet the requirements of various users implied in decision making process and consequently, information provided has to face up multiple dimensions, a digital standard to support this environment being absolutely necessary.

eXtensible Business Reporting Language (XBRL) is one variant of XML (eXtensible Markup Language) for business reporting, that supports both financial and non-financial data, which distinguishes it from traditional financial documents (Debreceeny, et al., 2005), thus being appropriate for prudential banking reporting, too. Consequently, for revolutionizing the way that information is both gathered and accessed (Wallace, 2001), the Committee of European Banking Supervisors started two XBRL-based projects called COmmon REPorting (COREP) and FINAncial REPorting (FINREP) to ensure homogeneous financial reporting and specific supervisory requirements regarding solvency control of financial institutions and investment firms.

The FINREP framework was designed to lead to a common European reporting based on International Financial Reporting Standards (IFRS). The COREP framework was designed to contribute to market discipline, by enhancing transparency and supporting proper risk management. It aimed “to reduce the reporting burden for credit institutions that operate cross-border, and lower barriers to the development of an efficient internal market in financial services” (CEBS, 2007).

Even if at the beginning of XBRL adoption, there were evidences (Nel and Steenkamp, 2008; Pinsker, 2003) that show low levels of awareness and understanding from information users, including accountants and auditors, mainly due to their low knowledge or experience, along time they succeeded to perceive the intended benefits that XBRL usage provides (Steenkamp and Nel, 2012). Thus, adopting XBRL facilitates communication, increases transparency through timely presentation, accurate, reliable, continuous and uniform reporting (Zabihollah and Turner, 2002; Bovee, et al., 2002), thus ensuring better auditing (Hodge, et al., 2004; Richards and Tibbits, 2002). In an indirect way, it will also have positive economic consequences and capital market benefits materialized in a decrease of capital cost and an increase of the stock price, due to the reduced levels of information asymmetry, as a result of increased disclosures (Debreceeny et al., 2010; Premuroso and Bhattacharya, 2008; Bartley et al., 2011).

According to prior literature, implementation of XBRL and its power to increase transparency and efficiency in business reporting was often a research topic in a single country analysis (e.g. USA, Australia, the Netherlands, South Africa, Italy) (Steenkamp and Nel, 2012; Bharosa, 2011; Debreceeny et al., 2010; Premuroso and Bhattacharya, 2008; Majid and Koo, 2008; Diego and Michele, 2011). Moreover, while most research studies have examined the factors that influenced the degree of

XBRL adoption (Locke and Lowe, 2007; Pinsker and Li, 2008; Bonson, et al., 2008), there is a lack of research both on comparative and evolutionary analysis of XBRL implementation.

Basing on this background, and considering the main objective of our paper - to provide a comprehensive analysis of financial and prudential reporting frameworks (FINREP and COREP) implementation in banking system at European Union level, by reference to international standards and their scope of application, the following research questions aroused, a comprehensive empirical analysis being performed for providing justified answers:

- RQ1: “Do the adoption of International Accounting Standards and Financial Reporting (IAS/IFRS) influence the application of financial reporting framework (FINREP)?”

- RQ2: “Is there any relationship between the application of financial reporting (FINREP) and prudential reporting (COREP) frameworks?”

Empirical Design and Results

The aim of our study is to provide an answer to our research questions by assessing possible relationships between the adoption of accounting standards and XBRL-based projects for financial and prudential reporting in banking system at European level.

Consequently, two sets of variables for performing the correlation analysis were needed:

variables expressing the scope of application of accounting reporting, namely for listed / unlisted entities, respectively at individual / consolidated basis (IFRS_I_Unlist; IFRS_I_List; IFRS_C_Unlist). Each variables takes “0” value for not applied, “1” value for permitted and “2” value for required;

variables revealing 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.

The sample of our analysis consisted of all 27 European Union member states, data collection being based on information 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 adoption of both accounting standards and XBRL-based projects for reporting.

Thus, we assisted at a continuous process of international harmonization and convergence of accounting for a very long time, the progress in achieving this goal being slow. Anyway, between 1973 and 2001, a series of 41 accounting standards ordered numerically have been issued by the International Accounting Standards Committee (IASC). Since 2001, the new International Accounting Standards Board (IASB) took over from the IASC its responsibility of standards settler and continued to develop the so-called “IFRS” (International Financial Reporting Standards).

By now, more than 100 countries and regions over the world have permitted or even required their domestic listing companies to adopt IFRS to different extent. Since 2005, all listed EU credit institutions are required to submit consolidated reports according to IAS/IFRS, a detailed imaged of their existent scope of application at European banking system level being presented in Figure 1.

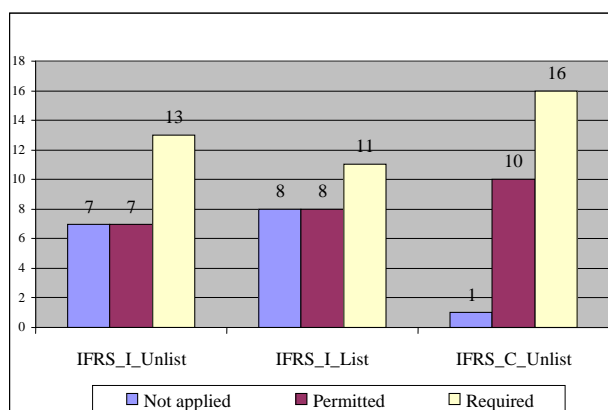


Figure 1. Scope of application of IFRS

Source: own projection

On the other hand, a new framework for financial reporting (FINREP) applicable to credit institutions was issued by the Committee of European Banking Supervisors (CEBS) in 2005, aiming to increase the level of financial reporting to Central banks, so that the supervisory process to be more effective. FINREP is not mandatory, but once an authority decides to apply the framework it should, as a minimum, require the core information (see Figure 2).

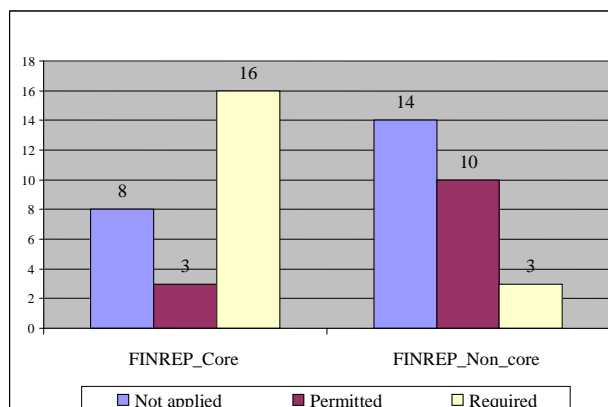


Figure 2. FINREP Adoption

Source: own projection

Because banking activities are by definition riskier than any others, additional reporting for enhancing transparency and market discipline in financial environment were needed. Consequently, in 1988, Bank for International Settlements (BIS) issued the so-called Basle Capital Accord to apply common minimum capital standards in banking industry, several improvements being made along time related to risks addressed and calculation methodologies.

Basing on these requirements, a new framework for prudential reporting (COREP) was issued by the Committee of European Banking Supervisors (CEBS) in 2006, aiming to create a harmonized framework for the regulatory reporting of the capital ratio. It is divided into five parts: capital adequacy (CA), group solvency (GS), credit risk (CR), market risk (MR) and operational risk (OR), a detailed presentation of their implementation level in European Union banking system being emphasized in Figure 3.

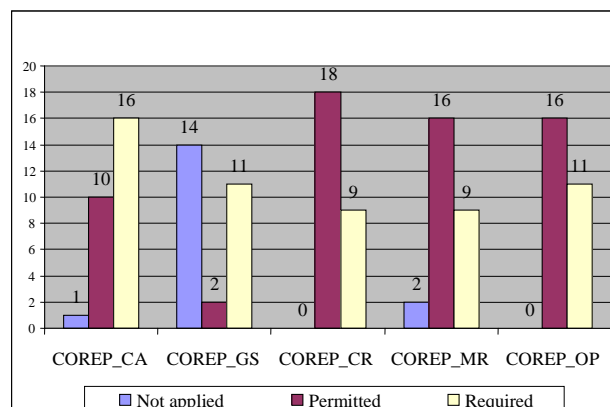


Figure 3. COREP Adoption

Source: own projection

Considering the continuous development of reporting frameworks for banking institutions in Europe, we were wondering if there is a relationship between their levels of adoption in EU member states, thus raising our research questions: RQ1 and RQ2.

For performing the correlation analysis designed to answer our questions, 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.

Pearson coefficient values reveal the existence of a positive correlation between variables tested, but not all of them are statistically significant.

Thus, despite our expectations that the adoption of International Accounting Standards and Financial Reporting (IAS/IFRS) is linked to the application of financial reporting framework (FINREP) our results reveal that there is not any relationship between the two financial reporting frameworks in European banking system.

The only correlation identified that met our expectations was between the two XBRL-based project FINREP and COREP, but its intensity is a medium one (0,389) and its probability of significance is only of 95% (Sig. <0,05).

Table 1. The correlation matrix between variables

		IFRS_I_Unlist	IFRS_I_List	IFRS_C_Unlist	COREP
FINREP _Non_core	Pearson Correl.	.011	-.044	.260	.296
	Sig.(2- tailed)	.956	.827	.191	.134
FINREP _Core	Pearson Correl.	.094	.080	.299	.423*
	Sig.(2- tailed)	.639	.692	.130	.028
FINREP	Pearson Correl.	.052	.010	.306	.389*
	Sig.(2- tailed)	.796	.959	.120	.045
	N	27	27	27	27

*. Correlation is significant at the 0.05 level (2-tailed).

Source: calculations made using SPSS software

In conclusion, the implementation of both XBRL-based projects (FINREP and COREP) is independent of a fully or partially adoption of International Accounting Standards and Financial Reporting (IAS/IFRS). Also, the correlation tests performed led to the conclusion that financial and prudential reporting frameworks are mainly inter-related. Moreover, irrespective of the degree of implementation of international accounting and financial reporting at individual level for listed/unlisted credit institutions or on consolidated bases for unlisted ones (48,14% / 40,74%), the rate of applicability of XBRL frameworks for financial and prudential reporting is relatively high (59,25%).

Findings and Conclusions

XBRL proved to be an electronic format for communication of either financial or general business information revolutionized reporting all around the world. By reducing the cost of analyzing and reporting business information, increasing the speed and efficiency of business decisions, enhancing dissemination of data and simplifying its presentation, XBRL bring benefices to most participants in any business process, whether they are preparers, transmitters or users of information.

When focusing on financial environment, the Committee of European Banking Supervisors (CEBS) found XBRL as a powerful tool for harmonization and standardization of reporting structure across countries, so that reported data have same meaning across the member states, and thus decided to develop common reporting standards for solvency (capital) ratios and financial reporting (COREP and FINREP).

Unlike prior research studies, which were mainly focused either on pointing out the role and dimensions of XBRL, its advantages and weaknesses, or on assessing the impact of implementation on a certain country and more frequently on companies' environment, our paper comes to add value to research literature through various perspectives.

Firstly, our main objective goes beyond analyzing XBRL as a technological language, focusing on its application through an evolutionary analysis. Secondly, by approaching XBRL concept in a particular business field, namely the banking system, considering all European Union countries for performing the proposed analysis, our paper provides comprehensive conclusions, thus being a useful as a source of reflection to both practitioners and academic environment.

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 development of 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 reveal that the implementation of both XBRL-based projects (FINREP and COREP) is independent of a fully or partially adoption of International Accounting Standards and Financial Reporting.

Also, the correlation tests performed led to the conclusion that financial and prudential reporting frameworks are mainly inter-related. When analyzing data in progress we concluded that generally there was a positive evolution on the adoption process of both XBRL-based frameworks at European Union level.

In conclusion, by approaching an extensible economic reporting language for collecting information on business processes, namely XBRL, our paper comes to underline the importance of technology in enhancing a unique framework for reporting. Thus, by analyzing the implementation of XBRL in the European banking environment, closely related to the adoption of International Accounting Standards and Financial Reporting (IAS/IFRS), we pointed out its major role in facilitating information communication in a homogeneous way that will allow the interchange of data between software applications, as well as the automatic analysis of financial information.

In the end, being aware of our study's limitations, coming from the sample selected 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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