Auditing and reporting in Europe: an analysis using country-level data

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Abstract

Purpose – This paper aims to investigate the determinants of the strength of auditing and reporting standards (SARS) in 41 European countries. It posits that there are a number of country-level determinants for the SARS and these determinants are grouped into four main categories: legal framework, corporate governance, market and higher education. This study aims to expand the domain of auditing and reporting by using country-level data than is usually found in the auditing literature.

Design/methodology/approach – Data were accessed from the World Economic Forum (WEF) Report (2009), World Bank Reports on Observation of Standards and Codes (ROSC) and the International Federation of Accountants (IFAC). The ROSC was used to synthesise the status of auditing in the 41 countries, whereas the IFAC report was used to determine the adoption of international standards on auditing. Data on SARS and its determinants were gathered from the WEF Report to empirically examine the validity of the hypotheses. The ranks of SARS were regressed on the ranks of its determinants.

Findings – This paper provides additional empirical evidence on SARS in Europe. It suggests that, in addition to extant literature, judicial independence and efficiency of the legal framework, ethical behaviour of firms, efficacy of corporate boards, strengths of the stock market and extent of staff training in the European countries impact on its SARS.

Research limitations/implications – Because the ROSC are not available for all the European countries, this study could not comment on the status of auditing for all the 41 countries. Second, had the countries been grouped into developed, emerging and developing, the determinants of SARS could be different.

Practical implications – This paper emphasises the importance of the efficiency of legal framework, corporate governance and the training of staff to maintain a reasonable SARS.

Originality/value – This study fills the research gap regarding the absence of an empirical cross-country study on the determinants of the SARS in Europe

Keywords Auditing, Financial reporting, Europe, International Standards on Auditing, IFAC

Paper type Research paper

1. Introduction

The purpose of this paper is to investigate the determinants of the strength of auditing and reporting standards (SARS) in 41 European countries using country-level data. SARS is a score computed by the World Economic Forum (WEF) to measure the SARS of 133 countries. Using a seven-point Likert scale where 1 indicates the weakest and 7 the strongest, WEF surveyed a sample of chief executives of each of the 133 countries on how they would assess the strength of auditing and reporting regarding company financial performance in their country. The SARS scores published by WEF vary among

countries in Europe (Schockaert and Houyous, 2007). While some of the developed countries have high scores others have scores below the average of five points (as reported by WEF). This paper posits that there are a number of determinants for the SARS score of a country. Using country-level data from Europe, this paper raises two questions:

(1) What is strength of auditing and reporting in Europe?

(2) What are the determinants of SARS in Europe?

In order to investigate the determinants, data are grouped into four main categories, namely: legal framework, corporate governance, market and higher education and at least two factors are identified that can affect the strength of auditing in the European countries. These factors are used as independent variables to regress against SARS. The analysis of data reveals that the strength of auditing varies among these countries and in addition to investor protection and protection of minority interest (as reported in the accounting literature, see La Porta *et al.*, 1997; Leuz and Wyscoki, 2003), there are other determinants which impact on SARS in the European region.

This study is important for a number of reasons. First, not all of the EU countries have adopted the international standards, nor are they fully compliant with EU IFRS and ISA regulations (Kohler, 2009; Nobes, 2010). As a result, this makes it harder for investors to rely upon the information provided by companies. Many of the EU countries are emerging economies and informing investors on whether the audit practice in the EU is based on the ISA would increase their confidence and trust in financial information from EU companies and consequently increase investment (Levich, 2001). It is also important for regulators and practitioners to be informed about the SARS of these countries, so as to design strategies to upgrade their strength of auditing and reporting. The other reason for addressing these two questions is because extant literature is very modest on ISAs and there is no study as yet on SARS and its determinants in Europe. The paper is therefore filling this gap and thus making a contribution to the literature.

This paper contributes to the auditing literature in the following ways. First it analyses the SARS scores of the European countries and clusters them as above-average and below-average performers. For example, a country with a SARS score above the average of five points is classified as an above-average performer and a country with a score below five points as a below-average performer. In like manner, the four groups of ISAs jurisdictions as per IFAC are classified into four grade categories: A, B, C and D. Category A is assigned to countries where ISAs is a requirement of the law; category B to countries where standard setters have adopted ISA; C to countries where national standards are ISAs; and D to others. Investors can use this cluster analysis as a basis to determine reliability of financial information for investment decisions. Researchers can use it for future studies such as regional or even country comparative studies. The paper also reports important findings for IFAC as there are countries where ISAs are mandatory (IFAC).

Second, this paper contributes to the literature on the SARS in a contextual perspective, that is, Europe. It provides evidence on whether EU countries are complying with ISAs as prescribed in Article 26 of the Statutory Audit Directive, including whether EU IFRS/ISAs regulations are converging with ISAs as favoured by the European Commission. This finding is pertinent to audit professional practitioners,

standard-setters and regulators in the EU countries, as well as the European Commission. The third contribution of this paper is empirical in the sense that it answers the question as to what are the determinants of SARS in Europe.

The rest of the paper is organised in four sections. Section 2 is divided into three parts: literature review, conceptual framework and development of hypotheses. Section 3 discusses the "data and method(s)". Section 4 presents the "empirical results" and is divided into two parts: a country comparative analysis and empirical analysis. The paper ends with a concluding note in Section 5.

2. Literature review, theoretical framework and hypotheses development
2.1 Literature review
The literature on auditing is very rich in the areas of ethics, theoretical applications, audit procedural practices, audit fees, audit rotation and auditor's choice, as well as individual country studies using firms data (Watts and Zimmerman, 1986; Asare and Wright, 2001; Peecher and Solomon, 2001; Frazer and Lin, 2004; Nikkinen and Sahalstrom, 2004; Bewley *et al.*, 2008). Watts and Zimmerman (1986) suggest that auditing is fundamental for the effective functioning of the capital markets because auditing helps to reduce agency risks. But others argue that the capital market influences the quality of reporting (Nobes and Parker, 2008). This argument therefore supports two points: first a country must have SARS to be able to ensure effective functioning of the capital market (Lennox, 1999; Carson, 2009); and second an adequate regulatory reporting environment, for example, the Securities Exchange Regulations on reporting.

According to the Competitive Index Report of WEF (2010), the highest SARS score that a country can obtain is 7 and the lowest 1. A high SARS score indicates the quality of financial reports in a country is more reliable than in a country with a low SARS score (Boolaky *et al.*, 2011). This view also aligns with Michas (2010), who contends that the strength of the audit profession affects the quality of financial information in a country. Lennox (1999) relates the quality of audit with the types of the audit firms. He argues that the big four auditors provide quality audit compared with small audit firms. This argument may not hold strong today, given the various financial scandals and the recent global financial crisis in the business arena. For instance, after the scandals of Enron, WorldCom, Parmalat, etc. investors around the globe lost confidence in capital markets and the auditing profession. The argument is that although auditors are mainly appointed to opine on the fair presentation of the financial reports, they have access to myriad information that could allow them to predict or assess imminent business failure, or even discover malpractices. In those scandals it is evident that auditors have only been restricted to their terms of reference. In order to restore investors' confidence, the USA adopted the Sarbanes-Oxley Act, 2002 whereas the EU consolidated its 1996 provision on statutory audit, ten years later into the EU Audit Directive (2006)[1].

Francis and Wang (2008) maintain that although the auditing profession may be less developed in some countries, the big four audit firms can perform high-quality audits and also transfer their knowledge and expertise in those countries (Francis and Wilson, 1988; Reynolds and Francis, 2001). Most studies on audit quality focus on the big four auditors in the profession (Durnev and Kim, 2005; Fan and Wong, 2005; Choi and Wong, 2007). For example, Fan and Wong (2005) is one of the most recent works on audit quality. They suggest that in the context of Asia, countries are more likely to acquire the service of a big auditor to ensure agency risk is mitigated.

In the context of Europe, the planning and accounting systems (including auditing) of many countries have been based on the communist accounting model (Enthoven *et al.*, 1998; Ichizli and Zacchea, 2000; Anon., 2002), except the Anglo-Saxon countries (Nobes, 1998). As from 1990, they changed their systems to meet the economic changes taking place (Briston, 1978, 1990; Enthoven and Sokolov, 1993), but others also argue that the then big five auditors strengthened their positions (see Daniel *et al.*, 2001). Following the setting up of the EU, member countries were then required to comply with the EU Directives as regards accounting and auditing practices, among others. Garcia-Benau and Zorio (2004) studied the audit reports on IASB financial statements in the European Union and infer that there are differences in the audit reports among member countries (see also King, 1999).

The World Bank ROSC reports suggest that in many European countries, auditing standards are not in line with ISAs and also some countries do not fully comply with the EU IFRS and ISA regulations. This view is also evoked by Kohler (2009) in his report on "Evaluation of the Possible Adoption of International Standards on Auditing in the EU". In a similar vein, Ojo (2010) studies the role of the IASB and auditing standards in the aftermath of the recent global financial crisis and suggests the importance of convergence of standards and practices to improve audit quality and also acknowledges the difficulties encountered by countries in this process. He further argues that there is a need to give the IASB some forms of enforcement mechanisms because as it is, the absence of enforcement mechanisms presents a source of obstacles in the convergence process. This lack of convergence at a country level is evidenced by the significant variation in the SARS of these countries. A review of the literature over the past decade indicates there is no study which has addressed the determinants of the strength of auditing and reporting in the context of Europe. The present paper fills the gap. The next section presents a conceptual framework and is followed by development of hypotheses.

2.2 Conceptual framework
This section presents the conceptual framework that supports the research questions. The accounting literature suggests that there are many factors, such as the rule of law, regulation, market and enforcement (see Briston, 1978; Hove, 1986, for developing countries; Nobes, 1998 classification theory; Nobes, 2010, for Europe, just to mention a few), which affect the accounting systems and practices, including auditing, among countries (Hatfield, 1996). La Porta *et al.* (1997) construct cross-country measures to investigate investor decisions and company-level accounting features with an emphasis on investor's protection and protection of minority interests in companies. Nobes (1998) theorises that the quality of reporting varies with the strength of the equity market, whereas others argue that the quality of auditing and reporting depends on the corporate governance practices of the firms and country with stronger investor protection (Francis *et al.*, 2003). The accounting literature further suggests a variation in the number and quality of factors affecting quality of reporting and in particular earnings quality by firms. This paper, as mentioned earlier, is looking at country determinants of SARS. In line with extant literature and also taking into account the nature and purpose of this paper, the determinants are grouped into four main categories: legal framework, corporate governance, financial market and foreign market size and education. Each category is then divided into a number of elements which are hypothesised to impact on the SARS score(s) of the European countries. This is conceptualised in Figure 1.
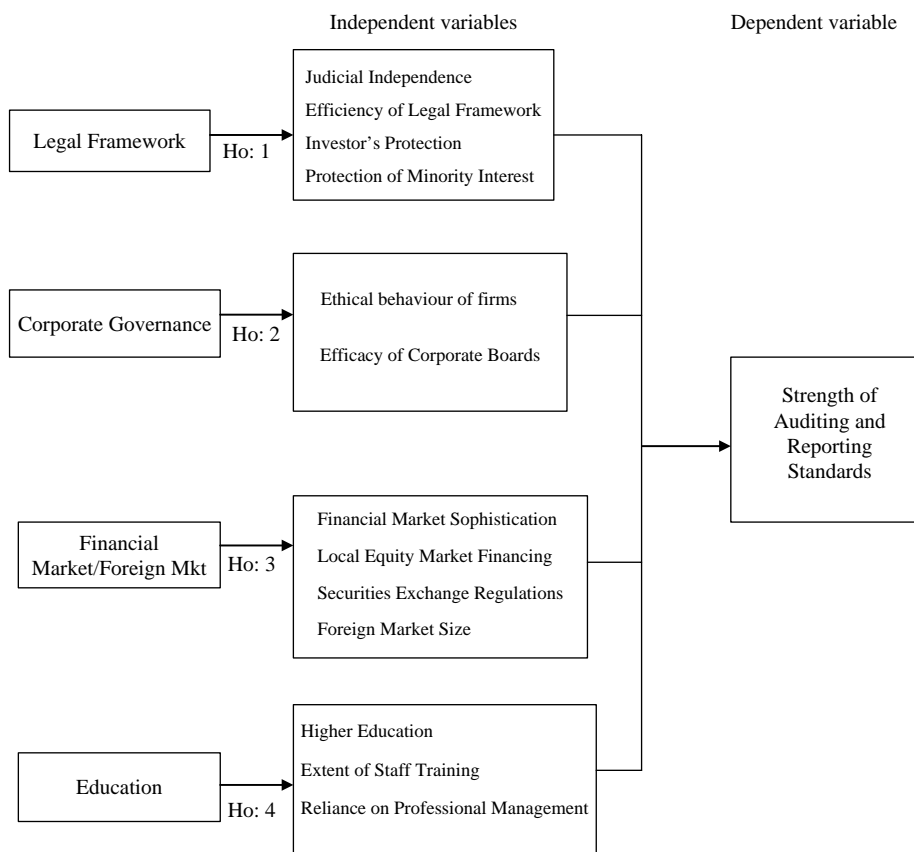
Independent variables   Dependent variable

Figure 1.
Conceptual framework
and hypotheses

2.3 Hypotheses

The legal framework hypotheses. The legal tradition of a country is the basis to define its
legal system. David and Brierly (1985) classify legal traditions into two types, namely,
common law and civil law. Common law is mainly English law, which relies less on
statutes and prefers private litigation to resolve disputes. Civil law is associated with
France and other Eastern European countries and which relies more on explicit laws and
codes and prefers state regulations as opposed to private litigation (for legal systems and
accounting, see also Salter and Doupnik, 1992; Nobes, 1998, 2010; Francis *et al.*, 2003;
Boolaky, 2007). For example, Salter and Doupnik (1992) contend that there is a direct link
between the legal system and the accounting system of a country. Boolaky (2007) studies
the association between legal systems and accounting systems in the sub-Saharan
Africa and provides empirical evidence that countries with common law traditions
follow the Anglo-Saxon accounting model, unlike countries with civil law traditions
which follow the Roman-based accounting plan.

La Porta *et al.* (1998) suggest that common law tradition provides more investor
protection including minority interest protection, than civil law tradition. Many studies
have used La Porta *et al.*'s (1997, 1998) suggestion on investor protection to measure

the legal impact on quality of reporting. La Porta *et al.* (1998). They use a six-point index[2] to determine investor-protection of a country and include factors such as disclosure requirements, litigation standards and public enforcement. They also consolidate their work in 2006 by developing indices to measure a country's disclosure level, litigation standard, and public enforcement of securities law. These indices are scaled from 0 to 1 and 1 indicates the stronger investor protection regime. The indices of La Porta *et al.* (1998) and La Porta (2006) are suitable but not necessarily applicable to all types of studies which would require the consideration of other legal aspects of a country. For example, La Porta *et al.* (1998) and La Porta (2006) do not consider the judicial independence and efficiency of the legal framework of a country at a macro-level. This paper argues that these two indicators are equally, if not more important than investor protection as a determinant of SARS of a country. A country may have strong investor protection regulation in place, but this legal machinery may be less efficient or less independent. For example, there are a number of countries which do have a good legal system in form but its operation is not efficient. There are countries with a strong money laundering law and/or anti-corruption law, and yet have the highest corruption rate. In like manner, there are countries where ISAs are mandatory by law and yet many of them do not comply with this legal requirement. Moreover, there are some jurisdictions with good laws but the court system takes a long time to process a case. This is common in both emerging and developing economies. Therefore, the efficiency of the legal framework and the independence of the judiciary are fundamental determinants of the SARS of a country but which have been overlooked by both previous and present literature. Neither La Porta *et al.* (1998) and La Porta (2006) nor Barniv *et al.* (2005) has used these two factors because the context of their studies did not require them. Based on the above, the following four hypotheses are therefore tested:

Ho1.1. There is a positive relationship between the level of investor-protection of a country and its SARS.

Ho1.2. There is a positive relationship between the level of protection of minority interest in a country and the SARS.

Ho1.3. There is a positive relationship between the judicial independence of a country and its SARS.

Ho1.4. There is a positive relationship between the efficiency of the legal framework of a country and its SARS.

Corporate governance hypotheses. There has been a need to enhance corporate governance in particular, to improve the strength of auditing and reporting due to some serious financial frauds such as Enron, WorldCom, etc. (Levitt, 1998, 2000). These reforms relate to improving the effectiveness of the audit committee and increasing accountability of the board of directors (Sarbanes-Oxley Act, 2002). Cohen *et al.* (2004) suggest that the quality of auditing and reporting depends on the effectiveness of the audit committee and the independence of its members (De Zoort *et al.*, 2003). In a similar vein, Francis *et al.* (2003) contend that the quality of corporate governance positively affects the quality of reporting in countries where corporate governance focuses on stronger investor protection. However, the literature is silent as regards the impact of the efficacy of the corporate board and ethical behaviour of firms on SARS. Given that

the accounting literature suggests a positive relationship between effectiveness of the audit committee and the quality of reporting (Cohen *et al.*, 2003, 2008), this paper posits that:

> *Ho2.1.* There is a positive relationship between ethical behaviour of firms in a country and its SARS.

> *Ho2.2.* There is a positive relationship between efficacy of the board and its SARS.

Financial market and foreign market size hypotheses. Nobes (1998) suggests that the strength of the equity market influences the financial reporting of a country. Financial reporting includes both the preparation and audit and assurance of the financial accounts. He further contends that the standard of reporting in a strong equity market should be higher than in a weak equity market. Levich (2001) argues that emerging countries are considered as investment opportunities and therefore the standard of reporting should be of high quality. Extant literature has empirically tested Nobes' theory by using market capitalisation and the number of listed companies per capita as the determinants of accounting and reporting in a country (Tyrall *et al.*, 2007).

This paper extends the literature by testing other factors in the financial market environment which may affect the SARS of a country. These factors are: the sophistication of the financial market; financing through local equity market; and securities exchange rules and regulations at a macro-level. For example, a more sophisticated financial market will require stronger auditing and reporting standards. Moreover, securities regulations also mandate listed companies to produce a high standard of auditing and reporting. In the context of Europe, some countries, like Albania, Estonia, etc. do not necessarily have a sophisticated financial market compared to the UK, Denmark and The Netherlands. Concurring with Nobes (1998), it is evident that when market capitalisation per capita is high, it implies that investors are investing more and that demonstrates confidence in financial information and thus strong reporting. This paper enriches the literature by demonstrating that the stage of development of the financial market (sophisticated or not) and securities exchange regulation are equally important determinants of SARS of a country and in this case European countries. In this conjuncture the following hypotheses are used:

> *Ho3.1.* There is a positive relationship between the level of sophistication of the financial market and SARS of a country.

> *Ho3.2.* There is a positive relationship between financing through local equity market and SARS of a country.

> *Ho3.3.* There is a positive relationship between the strength of the securities exchange regulations of a country and its SARS.

Furthermore, the size of the foreign market of a country impacts on its SARS. Some countries have key foreign trading partners which exert pressure on them to meet their reporting requirements. As with any other country, this argument is also true in the context of European countries (DiMaggio and Powell, 1983; Guerrreiro *et al.*, 2008). It is therefore hypothesised that:

> *Ho3.4.* There is a positive relationship between the size of the foreign market of a country and its SARS.

Education hypotheses. Accounting literature supports the theory that the level of education is important for accounting development and hence also important for the strength of auditing and reporting (Nobes, 1983, 1998; Gray, 1988). Most of the studies in this area use either literacy rate or the higher education index of a country as the explanatory variables. This study uses three different variables as determinants of SARS of a country. They are drawn from the WEF Country Competitiveness Score. First, the average higher education score, i.e. contrary to present and past studies, this score is an average score of the tertiary education score and the score of the standard of business school of a country. It is contended that business schools in a country are relevant in the context of this study because they are the principal institutions offering accounting and auditing education. Using only tertiary education would be too general and this may exclude accounting and auditing. However, by averaging the two variables, it also reduces the risk of biasness. Second is the extent of staff training, which is important to keep at a high standard of auditing and reporting (Reynolds and Francis, 2001). This variable is beyond academic accounting and auditing education, but extends to vocational/professional training which is an important determinant of the SARS of a country. Third is the reliance on professional management, that is, how far an entity in a country relies on professional management as regards accounting and auditing. The following hypotheses are therefore tested:

Ho4.1. There is a positive relationship between higher education and SARS in a country.

Ho4.2. There is a positive relationship between the extent of staff training and SARS in a country.

Ho4.3. There is a positive relationship between reliance on professional management and SARS in a country.

3. Data and method(s)

Data for this study are drawn from various sources: the *Global Competitiveness Report* of the WEF (2010); the World Bank Report (2002-2008) on Observance of Standards and Codes for the European countries; the International Federation of Accountants Compliance (IFAC) Program Report (2009); and EC Directives. The reason for using different sources is because this paper requires both qualitative and quantitative data. These data sources are both reliable and comprehensive and used by many researchers (Hegarty *et al.*, 2004; Michas, 2010; Boolaky *et al.*, 2011) in social science.

IFAC classifies countries on the basis of ISA adoption using four groupings:

(1) ISA required by law or regulation;

(2) ISA adopted by the national standard setter to be used in the country;

(3) National Standards are ISA, but any modifications(s) to meet local requirements are stated to be in line with the spirit of the International Auditing and Assurance Standards Board (IAASB); and

(4) Other (i.e. country for which no data is available, or have declared convergence with ISAs but is far away from achieving this objective).

See Appendix 1, the IFAC grouping of countries is re-classified in four categories as follows: Category A for group 1, Category B for group 2, Category C for group 3 and Category D

for group 4. The reason for giving group 1 a Category A is because ISA is mandatory under the law. Therefore, the expectation of compliance and strength of auditing and reporting are assumed to be higher compared to the other categories where ISAs are not necessarily a requirement under the law.

The WEF draws its data from international hard data sources and an Executive Opinion Survey. The survey is considered a unique tool for capturing timely and vital information related to the business environment in which business executives operate and therefore provides a reliable source of the competitiveness of an economy. The survey addresses 12 pillars of the Global Competitiveness Index and each pillar contains a number of indicators (see Appendix 2 for a list of the 12 pillars of competitiveness). The indicators under each pillar are not mutually exclusive and one may influence the other (WEF, 2009). All the 12 pillars and their indicators are not relevant for this study. Evidence from past studies is used to identify variables already addressed, as well as variables not yet addressed in the literature but which are explanatory variables of SARS. About 12 indicators are considered key explanatory variables for SARS in this study. They are drawn from Pillars 1, 5, 7, 8 and 10 (Appendix 2). These indicators are computed and published by WEF survey and they are measured on a seven-point Likert scale, where 1 is the lowest possible score and 7 the highest possible score. The data from the survey give a comparative qualitative picture of the economic and business environment of each country. The hard data[3] are basically quantitative data collected from a variety of sources. Contrary to other data used in accounting literature, the WEF 2009 data are the most recent data generated from international organisations such as the World Bank, United Nations, etc. A more detailed description of the hard data is found in the Technical Notes of the WEF (2010) report. The variables selected for this study are in Appendix 3.

Based on the scores computed by WEF on all the indicators of the 12 pillars, all countries in the sample are ranked on that particular variable. In this paper, the ranks of these countries are used to conduct the statistical test. The paper reports the SARS of European countries, compares them with the IFAC ISA classification by jurisdictions and discusses any significant differences using evidence from the most recent of ROSC of these countries. Findings at this stage will be useful for consideration by stakeholders (i.e. auditors, regulators, professional association and international institutions).

The descriptive statistics of all the variables used in the regression analysis are displayed in Table I.

Collinearity diagnosis is conducted on the variables as part of the regression in order to detect the presence of multicollinearity. Tolerance and variance inflation factor (VIF) are assessed and the variables do not report any problem. To identify the presence of outliers, Mahal's and Cook's distance tests are performed and both report no outliers as well. This is presented in Tables II and III.

Because the number of observations is limited to 41 countries and the independent variables are 13 in total, running a regression model with this data structure would over-express the model. Four separate models (Model 1-4) are therefore run. Each Model uses a different set of variables: Model 1 regresses SARS on the legal variables, Model 2 on corporate governance variables, Model 3 on financial market variables and Model 4 on education variables. The four models are described below and Tables VIII-XI report the findings (Table IV).

Legal variables	Mean	SD	*n*
SARS	51.76	36.407	41
JUDI	56.83	40.926	41
POMIN	65.71	42.873	41
EOLWF	63.49	43.539	41
INVPRO	54.37	31.274	41
Corporate governance variables			
SARS	51.76	36.407	41
EBOF	54.88	39.745	41
EOCB	60.68	41.642	41
Financial market and foreign market variables			
SARS	51.76	36.407	41
FMS	51.22	36.456	41
LEMF	67.24	30.142	41
SER	56.54	38.498	41
FOREMS	54.83	35.242	41
Education variables			
SARS	51.76	36.407	41
ROPM	55.39	40.056	41
EXSTRA	58.18	40.503	41
HET (AV)	50.02	31.213	

Table I.
Descriptive statistics

Variables	Tolerance	VIF
JUDI	0.101	8.930
EOLFW	0.143	6.013
POMIN	0.191	5.238
INVPRO	0.969	1.032
EBOF	0.351	2.848
ECOB	0.351	2.848
FMS	0.197	5.064
LEMF	0.270	3.709
SER	0.250	6.657
FOREMS	0.650	1.519
HET	0.135	7.430
ROPM	0.190	5.259
STAFTRA	0.305	3.625

Table II.
Verifying
multi-collinearity

Notes: Value les than 0.1 for the tolerance indicates presence of multicollinearity and VIF value above 10 indicates as well multicollinearity; in this case there is no concern of multicollinearity because both values (tolerance and VIF) are within acceptable limits

4. Empirical results

4.1 Comparative analysis of the SARS in Europe

Appendix 4 is a "Grand Tableau" which compares IFAC ISA Classification by Jurisdictions, the SARS Scores of the 41 European countries and a summary of the main findings of World Bank ROSC for a number of countries.[4] As mentioned in Section 3, the IFAC Classification has been grouped into four categories, via: Category A down to Category D. Category A, being those jurisdictions where ISAs are mandatory by law,

is assumed to be the best category. Appendix 4 is used as a basis to report three main findings in this study, namely:

(1) a distribution of countries by IFAC classification and SARS performance (this is reported in Table V);

Variables	Cook's distance	Mahal distance
Model 1. Using legal variables	0.244	13.005
Model 2. Using corporate governance variables	0.190	5.349
Model 3. Using financial market variables	0.255	11.533
Model 4. Using education variables	0.181	7.652

Notes: None of the Cook's distance value is greater than 1; Mahal distance is within the critical value at 0.05 level; both tests confirm that there were no outliers before processing to the multiple regression analysis

Table III.
Verifying for outliers

Independent variables	Description	Predicted outcomes
Model 1 : SARS $= \beta_0 + \beta_1$JUDI $+ \beta_2$EOLFW $+ \beta_3$POMIN $+ \beta_4$INVPRO $+ \varepsilon$		
JUDI	Judicial independence	+ (ve)
EOLFW	Efficiency of legal framework	+ (ve)
POMIN	Protection of minority interests	+ (ve)
INVPRO	Investor protection	+ (ve)
Model 2 : SARS $= \beta_0 + \beta_1$EBOF $+ \beta_2$ECOB $+ \varepsilon$		
EBOF	Ethical behaviour of firms	+ (ve)
ECOB	Efficacy of corporate board	+ (ve)
Model 3 : SARS $= \beta_0 + \beta_1$FMS $+ \beta_2$LEMF $+ \beta_3$SER $+ \beta_4$FOREMS $+ \varepsilon$		
FMS	Financial market sophistication	+ (ve)
LEMF	Local equity market financing	+ (ve)
SER	Securities exchange regulations	+ (ve)
FOREMS	Foreign market size	+ (ve)
Model 4 : SARS $= \beta_0 + \beta_1$HET $+ \beta_2$ROPM $+ \beta_3$STATRA $+ \varepsilon$		
HET	Higher education	+ (ve)
ROPM	Reliance on professional management	+ (ve)
STATRA	Staff training	+ (ve)

Table IV.

	IFAC ISA classification by jurisdictions (category 4,3,2,1)				
SARS scores	Category A: ISA required by law	Category B: ISA are adopted by national standard-setters	Category C: national standards are ISAs	Category D: others	Total
> 5 – 7	5	5	8	4	22
>1 < 5	3	4	3	9	19
Total	8	9	11	13	41

Notes: SARS score is measured on a Likert scale of 1-7 by the WEF survey; in this study the distribution of scores by countries is considered and then an average score is computed; this amounts to five; any country scoring a SARS above five points is assumed as an above-average performer and any country with a score equal to or less than five points as a below average performer

Table V.
Distribution of countries performance using IFAC classification and SARS score

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(2) ranking of the European countries by SARS scores (a league table is used to rank the 41 countries, see Table VI); and

(3) reporting the common ISA implementation problems based on World Bank ROSC reports (this is summarised in Table VII).

Table V reports that in Category A (i.e. ISA is mandatory), five out of the eight countries has a SARS score more than the average (i.e. 5 points) and these include Cyprus,

Countries	SARS scores	Above average performers Ranks	Countries	Below average performers SARS Scores	Ranks
Finland	6.2	1	Spain	5	23
Norway	6.1	2	Poland	4.9	24
Luxemburg	6	3	Portugal	4.9	24
Austria	6	4	Greece	4.9	24
Malta	5.9	5	Estonia	4.8	27
Denmark	5.9	5	Slovakia	4.8	27
The Netherlands	5.9	5	Motenegro	4.8	27
Latvia	5.8	8	Croatia	4.5	30
Germany	5.8	8	Macedonia FYR	4.4	31
Cyprus	5.7	10	Bulgaria	4.3	32
Romania	5.7	10	Georgia	4.2	33
Switzerland	5.7	12	Albania	4.2	33
UK	5.6	13	Armenia	4.2	33
France	5.6	13	Turkey	4.2	33
Belgium	5.6	13	Serbia	4	37
Iceland	5.5	16	Italy	4	37
Slovenia	5.3	17	Russian Federation	3.7	39
Czech Republic	5.3	17	Ukraine	3.7	39
Hungary	5.3	17	Bosnia and Herzegovina	3.1	41
Ireland	5.3	17			
Sweden	5.1	21			
Lithuania	5.1	21			

Table VI.
League table

List of problems	List of countries
Lack of public oversight of the profession	Latvia, Slovakia, Slovenia, Bosnia and Herzegovina, Hungary, Lithuania
ISA translation not equivalent	Macedonia FYR, Montenegro, Russia, Slovakia, Slovenia, Serbia
Specific ISAs (see the first note below)	Latvia, Romania, Slovakia, Slovenia, Bosnia and Herzegovina, Serbia, Albania, Poland, Macedonia, Montenegro, Turkey, Ukraine
Education and training	Latvia, Slovakia, Bosnia and Herzegovina, Albania, Lithuania, Macedonia FYR, Turkey

Table VII.
Common auditing problems by countries based on ROSC

Notes: ISA 700, 701, 220, 240, 230, 250, 260, 300, 320, 500, 501, 505, 510, 540, 550, 570, 600, 700; according to the most recent ROSC reports of the countries in this table, the fore-mentioned ISAs are not complied with; it is also identified that the form and content of audit reports did not comply with relevant ISAs; these countries do not also have a solid quality assurance in the place; there is evidence of non-compliance with ISQC 1

Malta, Latvia, Romania and Slovenia. In Category B (where National Standards-Setters have adopted ISAs) five out of the nine countries score a SARS above 5 points. Luxemburg scores 6 points, followed by UK with 5.6 points and Czech Republic, Hungary and Ireland score 5.3 points. Category C has a larger number of countries which score a SARS greater than 5 points and Finland is at the top of league with a score of 6.2 points followed by Norway, 6.1 points. In Category D, only four countries score above average points with Austria leading at 6 points. Table V also reports that in some countries where ISA is mandatory by law, their SARS scores are below average. For example, in Slovakia, Slovenia and Bulgaria, although ISA is mandatory, yet auditors in these countries are not complying with a number of ISAs (ISAs 260, 505, 550,570, 240) (see Appendix 4 row 6, column 4, row 7, column 4 and row 1, column 4).

According to IFAC, 13 countries are in Category D (Other). That is there are no information available or it consists of countries which indicate that their local standards are based on or similar to the ISAs, or have declared convergence but still have a long way to go. From this group, only four countries have a SARS score above the average. In addition to a lack of audit education, non-compliance with ISAs and lack of enforcement, these countries are also not fully compliant with the EC Directives and EU IFRS/ISAs regulations. A list of ISAs not complied with by these countries as per the ROSC is reported at the bottom row in Table VII.

The above findings are important to regulators of each of those countries. In particular, countries which are below average need to have their ISAs adoption and implementation reviewed. This finding is also vital to potential investors because it assists them to identify jurisdictions where financial information is more reliable and thus can be used to make their investment decisions. Audit professionals can use this finding to identify potential markets for audit services.

Table VI ranks the countries based on the SARS scores. It reveals that 23 out of the 41 European countries have a SARS score of more than 5 points. Finland is leading the other countries, followed by Norway and the Luxemburg. The strength of auditing and reporting in Finland is better than in the UK. Finland though being in Category B of the IFAC classification, scores a higher SARS (6.2) than the UK (5.6).

The 18 countries scoring less than 5 points are further investigated by scrutinising the ROSC in order to determine any common audit problem among them. The results are reported in Table VII followed by a discussion.

The reason for lower SARS in these countries is the presence of a weak enforcement mechanism for the profession. For example, in the auditing profession, this is evidenced by the lack of a Public Oversight Body. For some countries, the ISA translation is not equivalent to the IAASB, thus reducing the compliance level. Moreover, analysis of the ROSC of the countries also reveals that there are a number of ISAs which are not complied with or only partly complied with across these countries (Table VII). One main reason for this lack of compliance is due to a lack of audit education and in particular professional training and development, as well as audit education and training for management and directors. ROSC reports reveal that due to management (managers and directors) lack of audit education, they do not fully understand the role of an auditor and consequently this entails tension between them and auditors. For example, evidence from the ROSC suggests that compliance with the standard on related party transactions causes a lot of tension between auditors and managers.

4.2 Regression analysis
A country-level regression is run in order to empirically examine the validity of the hypotheses. The ranks of SARS are regressed on the ranks of the various independent variables as described in the previous section. The empirical results are presented in Tables VIII-XI.

Model 1 as regard the legal determinants of SARS, two of the variables are statistically significant at conventional levels. The adjusted R^2 of the model is 90.3%. They are JUDI and EOLFW and JUDI is significant at less than 1% level. It supports hypothesis 1 which states that the level of judicial independence in a country influences its SARS. EOLWF would be significant at less than 10% level.

Model 2 which regresses SARS ranks on two corporate governance variables, report that both are statistically significant. The adjusted R^2 of the model is 79.9%. EBOF is statistically significant at less than 1% level as opposed to ECOB which is significant at less than 5% level. This result empirically supports both *H2.1* and *H2.2*.

Model 3 deals with the financial market and foreign market size variables. The adjusted R^2 of the model is 81.5%. All the four independent variables put into the regression are statistically significant. FMS and SER are significant at less than 1% level whereas FOREMS is significant at less than 5% level. These results empirically support *H3.1*, *H3.3* and *H3.4*. LEMF is statistically significant at less than 10% level. *H3.1* suggests that the sophistication of the financial market is associated with the strength

Variable	Coefficient	*t*-value	*p*-value
Constant	–	0.794	0.433
JUDI	0.639	4.117	0.000***
EOLFW	0.251	1.926	0.062*
POMIN	0.095	0.842	0.405
INVPRO	0.048	0.953	0.347
Adjusted R^2			0.903
F			94.250
P			<0.001
n			41

Notes: JUDI is significant at: ***0.01 level whereas EOLFW would be significant at *0.10 level of significance; neither investor protection nor protection of minority interest is significant in this model

Variable	Coefficient	*t*-value	*p*-value
Constant		0.866	0.392
EBOF	0.684	5.71	0.000***
ECOB	0.251	2.101	0.042**
Adjusted R^2			0.799
F			80.399
P			<0.001
n			41

Notes: EBOF is significant at ***0.01 level whereas ECOB is significant at 0.05; neither investor protection nor protection of minority interest is significant in this model

Variable	Coefficient	t-value	p-value
Constant	–	2..651	0.012
FMS	0.575	4.097	0000[***]
LEMF	0.225	1.872	0.069[*]
SER	0.636	3.953	0.0000[***]
FOREMS	0.169	2.303	0.034[**]
Adjusted R^2			0.815
F			55.32
P			< 0.001
n			41

Notes: Financial market sophistication and securities exchange regulation are significant at 0.01 level of significance whereas size of foreign exports market is significant at 0.05 level; local equity market financing are modestly significant at 0.10 level

Table X.
Multiple regression result
(Model 3: financial
market determinants)

Variable	Coefficient	t-value	p-value
Constant		18.844	0.000
HET	0.268	0.687	0.502
ROPM	0.305	0.930	0.366
STATRA	0.803	3.109	0.007[***]
Adjusted R^2			0.612
F			
P			< 0.001
n			41

Note: Staff training is also significant at less than 1 per cent level

Table XI.
Multiple regression result
(Model 4: Education
determinants)

of auditing and reporting in Europe. In like manner, the finding in this model supports the theory that the Securities Exchange Regulations impact on the strength of auditing in this region.

Model 4 tests the education variables as determinants of SARS in Europe. The adjusted R^2 of the model is 61%. STATRA is statistically significant at less than 5% level. This supports *H4.3*, which suggests that the strength of auditing and reporting in a country is associated with the training of staff.

Overall, empirical results in this paper fully support *H1.1*, *H2.1*, *H3.1*, *H3.3*, *H3.4* and *H4.3*. These results confirm that in addition to investors' protection, there are other legal factors which contribute towards the strength of auditing and reporting in Europe. This study identifies judicial independence. No study investigates corporate governance variables similar to those used in this study. The result supports the proposition that the ethical behaviour of firms in a country influences the strength of auditing and reporting. This can be expounded by the fact that a highly ethical firm will ensure that it appoints the right auditor, has in place an independent audit committee and may even rotate auditors. Moreover, a highly ethical firm will not attempt to threaten auditor's independence.

The strength of the financial market in terms of its sophistication, regulations and extent of the foreign market play a crucial role on the strength of auditing and reporting of the European countries. As suggested in the accounting literature, a firm would tend

to follow norms of firms in the same industry if that would project a better image. This is true in the case of a country as well. A country would follow norms of the trading partners just to keep a good business relationship. In like manner, countries in the EU would tend to follow audit practices that would be acceptable throughout the European communities and the international communities.

Though higher education does not seem to play a key role in the strength of auditing and reporting in Europe, training of staff is crucial. The finding in this paper suggests that staff training is important for the strength of auditing. The logic behind this is that a country may have a high standard of higher education, with good universities, etc. but auditing being a professional practice, requires more of vocational training at both practitioner and management level. In the context of Europe, the finding in this paper suggests that in addition to the training of professionals, there is a need of audit education for management and directors of business entities.

The main findings of this study are summarised in Table XII. Overall, a strong support is found for *H1.1*, *H2.2*, *H3.1*, *H3.3*, *H3.4* and *H4.3*, but modest support for *H2.2* and *H3.2*, followed by weak support for *H1.2*, *H4.1* and *H4.2* are rejected (i.e. this study provides no empirical support for these two hypotheses at a country level). This study confirms that judicial independence and efficiency of the legal framework, ethical behaviour of firms, financial market sophistication as well as foreign market size and extent of staff training, influence a country's SARS. These results align with and also enhance and update the findings of the World Bank ROSC Team as well as the IFAC.

5. Conclusion
The SARS varies among countries around the globe including Europe. The IFAC basis of ISA adoption by jurisdiction suggests that ISA adoption and implementation varies among countries. While some countries have made the use of ISAs, as issued by the IAASB, mandatory by law, in other countries the national standard-setters have adopted ISAs as the auditing standards of the country. Other countries have adapted ISAs to the local standards and any modification(s) made are in line with the spirit of the IAASB

Hypothesis	Model 1: legal variables	Model 2: corporate governance variables	Model 3: financial market and foreign market variables	Model 4: education variables
H1.1	Accepted at < 0.01 level			
H1.2				
H2.1		Accepted at < 0.01 level		
H2.2		Accepted at < 0.05 level		
H3.1			Accepted at < 0.05 level	
H3.2			Accepted at < 0.01 level	
H3.3			Accepted at < 0.05 level	
H3.4			Accepted at < 0.01 level	
H4.1				
H4.2				
H4.3				Accepted at < 0.01 level

Table XII.
Summary of
empirical results

Modification Policy. Nevertheless, there are also some countries which indicate that their local auditing standards are based on or similar to the ISAs, but there is no clear evidence whether they comply with the IAASB Modification Policy. There is also a group of countries which will take some time to achieve convergence with ISAs. The WEF publishes the scores of the SARS of 133 countries and this also provides evidence that SARS varies among countries. Of course this variation is also among the European countries.

This study investigates the determinants of the SARS in the European countries. SARS is taken as an imperative of institutional transparency and crucial for businesses, investors, regulators, international institutions, professional associations and governments. This empirical work is based on data collected on 41 countries from the *Global Competitiveness Report* published by the WEF (2010). This study confirms empirically that there are a number of explanatory variables for a country's SARS.

Findings from this paper support existing theory in extant literature and add new findings to the auditing literature. In regard to legal framework, this study reports two additional legal variables explaining the strength of auditing and reporting in a country. They are judicial independence and efficiency of the legal framework. Past literature uses origin of law, and investor's protection as determinants of reporting, but findings from this paper theorise that a country may have a good investor's protection law, but if there is a lack of judicial independence and efficiency in the legal system, dealing with investors' protection and protection of minority interest issues may be ineffective. Moreover, this paper brings an additional contribution to the literature by demonstrating that the ethical behaviour of firms and efficacy of corporate boards are crucial to the SARS of a country. None of these have yet been addressed in the literature.

In regard to the financial market, findings in this paper support Nobes (1998) theory that the more sophisticated a stock market, the stronger will be its SARS. A review of the stage of the capital market development in some of the Eastern European countries suggests that improvement in the capital market system both in terms of trading structure, regulations, etc. would enhance their SARS. Furthermore, this paper reveals staff training as a new educational variable influencing SARS in a country. Accounting literature emphasises on education, but limits it to secondary and tertiary education. This paper has considered the standard of the business school of a country as well as the extent of professional training of staff.

This study has some limitations. First, it has used the World Bank ROSC reports, but could not access a report for each of the 41 countries. Therefore, comments on the status of auditing as practised in a country apply only to those countries for which the ROSC was available. Second, the ROSC of the majority of these countries date back five to seven years. Third, the study has not grouped the European countries into developed, emerging and developing, in order to determine whether the same explanatory variables apply to all the countries across the board. This limitation could be a venue for future research on auditing in Europe. Future research could also include investigating the link between the Accounting Classification theory and ISA adoption by jurisdiction.

Notes

1. Article 26 of the Statutory Audit Directive (Directive 2006/43/EC) allows European Commission to adopt ISAs issued by IAASB through a binding legal instrument and requires that statutory audits of annual and consolidated accounts should be carried out on the basis of ISAs.

2. The six specific elements of investor protection are ability of minority shareholders to challenge the control of the firm by managers and dominant (inside) owners. Country-level scores range from 0 to 6 based on the sum of six indicators that reflect shareholder rights: (1) the ability to vote by mail; (2) the ability to gain control of shares during the shareholder's meeting; (3) the possibility of cumulative voting for directors; (4) the ease of calling an extraordinary shareholder's meeting; (5) mechanisms are available allowing minority shareholders to make legal claims against directors; and (6) shareholders have pre-emptive rights that can be waived only by a shareholder's vote. Larger values of the anti-director rights' index indicate that minority shareholders are better protected against expropriation by management and large controlling shareholders.

3. WEF uses the following standard formula for converting hard data:

$$\frac{6 \times (countryscore - sampleminimum) + 1}{(samplemaximum - sampleminimum)}$$

The sample minimum and sample maximum are, respectively, the lowest and highest country scores in the sample of countries covered by the GCI. In some instances, adjustments were made to account for extreme outliers.

4. ROSC reports for 20 countries were available at the time of writing. Details are given in Appendix 4.

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Appendix 1. Basis of ISA adoption by jurisdiction

Required by Law or Regulation – Country law or regulation requires the use of ISAs as issued by the International Auditing and Assurances Standards Board (IAASB) in the auditing of general purpose financial statements. (Classified as Category 4)

ISA are adopted – A national standard-setter has adopted ISAs as the audit standards to be used in the country (there are no separate local auditing standards). (Classified as Category 3)

National Standards are the ISAS – While ISAs have generally been adopted as the local standards, there may be national modifications to them but changes, if any, are stated to be in line with the spirit of IAASB Modifications Policy. (Classified as Category 2)

Other – In some circumstance, available information is not adequate to evaluate whether the local adoption process, including the translation of ISAs into local language, is reasonably up to date with translation lags of a year. In other case, where a jurisdiction indicates that the local generally accepted auditing standards is "based on" or "similar to" the ISAs, it is not clear whether modifications to or other differences from the ISAs meet the requirements of the IAASB Modifications Policy. Finally, there are some countries which have declared convergence with ISAs as an objective but still have a way to go in achieving this objective. The explanatory notes provide insights into the adoption process (see pp. 9-28). (Classified as Category 1)

Source: IFAC Member Body Compliance Program, October 2009, p. 1.

Appendix 2

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Pillars	Description	Number of indicators
1	Institution	19
2	Infrastructure	8
3	Macroeconomic stability	5
4	Health and primary education	11
5	Higher education & training	8
6	Goods market efficiency	15
7	Labour market efficiency	9
8	Financial market sophistication	9
9	Technological innovation	8
10	Market size	2
11	Business sophistication	9
12	Innovation	7

Source: The *Global Competitiveness Report 2009-2010* WEF (2010)

Table AI.
Twelve pillars
of the global
competitiveness index

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Appendix 3. Selected variables from WEF twelve pillars

SARS	SARS refers to the strength of financial auditing and reporting standards in a given country compared to other countries in the sample. This is our dependent variable.
INVPRO	Strength of investor protection is a combination of the extent of disclosure index (transparency of transactions), the Extent of director liability index (liability for self-dealing), and the ease of shareholder suit index (shareholders' ability to sue officers and directors for misconduct).
EOLFW	Efficiency of legal framework in challenging regulations refers to how efficient the legal framework for private businesses is in challenging the legality of government actions and/or regulations.
JUDI	Judicial independence measures the extent to which judiciary in a country is dependent from influences of members of government, citizens and the public.
PROMIN	Protection of interest of minority shareholders measures the extent to which minority shareholders' interests are protected by the legal system.
EBOF	Ethical behaviour of firms compares corporate ethics (ethical behaviour in interactions with public officials, politicians, and other enterprises) of firms in one country with firms of other countries in the world.
EOCB	Efficacy of corporate boards refers to the characteristics of corporate governance based on corporate governance pertaining to boards of directors in a country.
FMS	Financial market sophistication refers to how sophisticated the financial market is in a country.
LEMF	Financing through local equity market refers to the ease with which money is raised by issuing shares on the stock market in a country.
SER	Securities exchange regulations refers to the assessment of regulation of securities exchange of a country.
FOREMS	The size of the foreign market is estimated as the natural log of the total value PPP estimates) of exports of goods and services, normalized on a 1-7 scale. PPP estimates of exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP.
HET	Higher education and tertiary enrolment refers to the gross tertiary education enrolment rate in a country (hard data).
EXTSTRA	refers to the extent companies in a country invest in training and development of their staff.
ROPM	Reliance on professional management is measured through surveys and is used as indicator of efficient use of talent.

The WEF computes the scores of each of these variables using a Likert scale of 1-7. The value 7 is the highest score and 1 the lowest.

Appendix 4

Countries	IFAC ISAs classification	SARS	ROSC main findings
Bulgaria	4	4.3	Audit reports do not comply with ISAs. There is more focus on tax reporting. There is less strong sanction in place for unaudited financial statements
Cyprus	4	5.7	There is no public oversight for the audit profession. Audit reports do not comply with ISAs. There is a lack of audit education/training on part of management/directors. Compliance with related party transaction audit causes tension between management and auditor. No full compliance with ISA 500
Estonia	4	4.8	ROSC not available
Latvia	4	5.8	ISA compliance is a problem. Lack of audit education/training on part of management/directors. Tension for RPT. Audit reports are misleading and do not comply with ISA 700
Malta	4	5.9	ROSC not available
Romania	4	5.7	ISA 701 not complied with
Slovakia	4	4.8	36 NSA based on ISA, but with no implementation guidelines. Lack of expert knowledge. Lack of independence. No public oversight of the profession. Non-compliance with ISQC 1. Non compliance with ISA 220, 240, 230,300, 320, 500
Slovenia	4	5.3	No compliance in substance with ISA: 220, 240, 320, 500. Lack of audit education/training on the part of management/directors/
Bosnia and Herzgovina	3	3.1	No public oversight of the profession. National Auditing Standards do not comply with ISAs. Non-compliance with ISAs: 260, 505, 550,570, 240. Lack of audit education/training on part of directors/management
Czech Republic	3	5.3	ROSC not available
Georgia	3	4.2	ROSC not available
Hungary	3	5.3	No public oversight. ISA: 600, 700 not complied with
Ireland	3	5.3	ROSC not available
Luxemburg	3	6.0	ROSC not available
Serbia	3	4.0	ISA is in the law. No public oversight of the profession. Environment not conducive to apply/comply with ISAs. Not comply with ISQC 1. Lack of audit education/training for management/directors
Spain	3	5.0	ROSC not available
UK	3	5.6	ROSC not available
Albania	2	4.2	Audit reports misleading and not comply with ISA 700-709. ISA 240, 265 not fully understood and by auditors
Denmark	2	5.9	ROSC not available
Finland	2	6.2	ROSC not available
France	2	5.6	ROSC not available
Germany	2	5.8	ROSC not available
The Netherlands	2	5.9	ROSC not available
Norway	2	6.1	ROSC not available

Table AII.
Comparing IFAC ISAs classification with SARS, ROSC findings

Countries	IFAC ISAs classification	SARS	ROSC main findings
Poland	2	4.9	NSA includes ISA version. Audit reports misleading and not comply with either standards. Really NSAs not in line with ISAs: 530, 540, 550, 560, also not comply with ISA 220. And ISQC 1
Portugal	2	4.9	ROSC not available
Sweden	2	5.1	ROSC not available
Switzerland	2	5.7	ROSC not available
Armenia	1	4.2	ROSC not available
Austria	1	6.0	ROSC not available
Belgium	1	5.6	ROSC not available
Croatia	1	4.5	ROSC not available
Greece	1	4.9	ROSC not available
Iceland	1	5.5	ROSC not available
Italy	1	4.0	ROSC not available
Lithuania	1	5.1	Lack of audit education. No independence. Non-compliance with ISQC 1. ISA 220, 250 not complied. 38 per cent of audit report was qualified: a sign of compliance with ISAs
Macedonia FYR	1	4.4	Lack of education. ISA 240, 260, 700 not complied with. ISA translation is not equivalent
Montenegro	1	4.8	NSA is defined as ISA in law. Translation is not adequate. ISA 700, 701, 540, 501, 510, 260 not complied with. ISQC 1 also is not followed
Russian Federation	1	3.7	OSC not available
Turkey	1	4.2	NSAs are not ISAs. Do not comply with EC Directives. Lack of audit education. Audit opinion not complied with ISAs
Ukraine	1	3.7	Though ISA adopted, it is not complied with. Audit report for IFRS financial statements comply with ISAs. Not comply with ISAs 220, 240, 500

Source: IFAC (2009) and WEF (2010), ROSC several reports

Table AII.

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