

**DO CULTURAL ACCOUNTING VALUES AFFECT
SUSTAINABILITY REPORTING ASSURANCE?
EVIDENCE FROM FORTUNE GLOBAL 500**

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Abstract:

Purpose: This study aims to investigate the association between the cultural accounting values and the sustainability reporting assurance.

Design/methodology/approach: Based on the 500 largest companies in the world (Fortune Global 500), we examine whether cultural accounting values are related to the external assurance of sustainability reports.

Findings: Empirical analyses reveal that companies from countries with high levels of accounting uniformity and/or with high levels of accounting conservatism are more likely to externally assure their sustainability reports.

Originality: Whereas the accounting literature has demonstrated that cultural accounting values do affect the assurance of financial reporting, little is known about the impact of these values on the assurance of sustainability reporting. The aim of this research is to bring empirical evidence to bear on this issue.

Practical implications: Our results would be of interest to assurance companies engaged in sustainability reporting assurance (accountants or consultants), as well as to international assurance standard-setters when developing or promoting their standards.

Keywords: Sustainability Reporting Assurance; Cultural Accounting values; National Cultural dimensions.

1. Introduction

The growing release of corporate sustainability reports around the world in recent decades (KPMG, 2022) has been accompanied by the development of the assurance of these reports. This assurance practice has helped to enhance both the credibility of the sustainability reporting practice (Simnett et al., 2009, Hodge et al., 2009; Kolk and Perego, 2010; Cho et al., 2014; Maroun, 2020) and the legitimacy of the companies using this assurance (Gillet-Monjarret, 2015; Yan et al., 2022).

Sustainability reporting and sustainability reporting assurance (SRA) have known several attempts of standardization. For reporting, standards such as AccountAbility (AA 1000) or the Global Reporting Initiative (GRI) may be mentioned. For assurance, some organizations have published principle-based frameworks. These include AccountAbility (AA 1000) and the Global Reporting Initiative (GRI) ones, but also the International Standard on Assurance Commitments (ISAE) 3000 published by the International Auditing and Assurance Standards Board (IAASB). Although these auditing standards differ slightly, their objective is the same, as they seek to reduce the level of information asymmetry and provide relevant information to the various stakeholders of an organization.

Nevertheless, while sustainability reporting has been very widespread around the world, their assurance has been a little less so. An IFAC study in 2021 shows that if 91% of the 100 largest companies according to market capitalization disclose information on sustainability, only 51% of them provide some form of sustainability assurance. As the literature has not yet fully explored the reasons why few companies rely on a third party to assure their sustainability report, this study aims to enrich this literature by investigating the role of cultural accounting values on such a decision. To this end, this paper focuses on Fortune Global 500 companies and examines whether the cultural accounting values of a company's home country affect the decision to assure that company's sustainability report.

The intended contribution of this research paper is twofold. Firstly, we aim to explore the relevance of Gray's theoretical framework (Gray, 1988; Radebaugh et al., 2006) in explaining sustainability reporting practices in general and SRA in particular. Several previous empirical investigations have highlighted the key role cultural accounting values play in shaping financial reporting and disclosure practices at national and international scales (Noravesh, 2007; Braun and Rodriguez, 2008; Salter et al., 2013). However, little is known about the link between SRA, as a specific sustainability reporting practice, and cultural accounting values. Secondly, this

study intends to contribute to the SRA knowledge by outlining drivers and impediments of SRA and to predict future evolution. For instance, our results would be of interest for SRA providers, companies publishing sustainability reports or international assurance standard-setters¹ in their quest to promote and to facilitate the worldwide adoption of their outcomes.

The remainder of this paper is organized as follows. Section 2 reviews the literature covering determinants of SRA. This section also introduces our research hypotheses. Section 3 describes the research design, and section 4 presents our empirical results. Finally, section 5 discusses the empirical findings as well as research implications.

2. Literature review and hypotheses development

2.1. Determinants of Sustainability Reporting Assurance

Although it has been around for several decades, sustainability reporting is still undergoing significant upheaval and continues to face major challenges. As a result, all practices in this area are still evolving. The future standards that will be published by the European Union or by the International Sustainability Standards Board (IFRS foundation) are an example of the evolutions that these practices will experience in the coming years. This observation has led many scholars to advocate for further empirical investigation of sustainability reporting practices around the world (Fifka, 2013; Ali et al, 2017).

SRA is a relatively young practice, dating back to the early 2000s (Kolk & Perego, 2010). This explains why there are relatively few studies that have focused on this practice. However, more and more studies are being conducted to analyse the determinants, factors, drivers, or inhibitors that may explain whether a company use SRA (Farooq & De Villiers, 2017; Maroun, 2020; Yan et al., 2022). Some of them are firm-specific determinants. Others are country level determinants.

On one hand, some studies have shown that internal variables related to the company itself have an effect on this assurance. For example, several studies have shown that size has a very significant effect on the decision to assure sustainability or Corporate Social Responsibility (CSR) information (Simnett et al., 2009; Gillet-Monjarret, 2018). Other studies

¹ Such as IAASB, AA 1000, Global Sustainability Standards Board, European Financial Reporting Advisory Group or the International Sustainability Standards Board (IFRS Foundation).

have shown that the richer and more profitable the company, the more resources it has to assure its report (Cho et al., 2014). The industry to which a company belongs would also have an influence on the SRA. This is the conclusion reached by many investigations who showed that companies that have a social or ecological footprint and those that wish to improve their credibility tend to assure their sustainability information more (Simnett et al., 2009; Zorio et al., 2013; Cho et al., 2014). Finally, Gillet-Monjarret (2015) showed that companies with high levels of media exposure tended to assure more their sustainability reports.

On the other hand, some studies have stated that SRA could be determined by country-level variables. Thus, according to previous literature, variables such as the nature of the legal system (Simnett et al., 2009), the level of stakeholder or shareholder orientation of a country (Kolk & Perego, 2010; Herda et al., 2014;), or the level of investor protection in a country are variables that could significantly influence the SRA (Simnett et al., 2009; Kolk & Perego, 2010; Maroun, 2020).

Aside from these institutional factors, the country-specific characteristics that might influence SRA remain not well explored. For instance, little is known about how cultural factors, especially those that tend to affect accounting, accountability, and auditing choices, can influence SRA in a given country.

2.2 Sustainability Reporting Assurance, National Culture and Cultural Accounting Values

In the early 1980s, Hofstede's framework of national culture was a major contribution to studies analysing the impact of culture on organizations. Hofstede outlined six dimensions that could characterize the culture of each country (Hofstede, 1980; 1991). Building on this framework, Gray (1988) developed his cultural theory of accounting, which states that the value systems of accountants are strongly connected to the country's societal values. More precisely, Gray (1988) states that Hofstede's cultural dimensions, shape a country's accounting culture through the following four accounting values: Professionalism/statutory control; Uniformity/flexibility; Conservatism/optimism; Secrecy/transparency.

Table 1: Cultural Dimensions and Accounting Values (Gray, 1988 & Radebaugh et al., 2006)

+ : Positive link - : Negative link ? : Not established link		Hofstede's cultural dimensions				
		Power Distance	Uncertainty avoidance	Individualism	Masculinity	Long term orientation
Gray 's Accounting values	Professionalism	(-)	-	+	((+))	((-))
	Uniformity	(+)	+	-	?	?
	Conservatism	?	+	(-)	(-)	+
	Secrecy	+	+	-	(-)	+
?: Absence of Relationship; ((-)) Insignificant negative Relationship; ((+)) Insignificant positive Relationship; (-) Moderate negative Relationship; (+) Moderate positive Relationship; - Significant negative Relationship; + Significant positive Relationship						

According to Gray (1988), the four cultural accounting values play a crucial role not only in the development of national accounting systems, but also in shaping the accounting practices within a country (measurement methods, disclosure, financial reporting, regulation of the accounting profession, etc.). Nevertheless, while Gray's model has been widely employed in analysing accounting and auditing practices (Hope et al., 2008; Braun & Rodriguez, 2008; Chand et al., 2012; Salter et al., 2013; Houque et al., 2016; Wijayana & Gray, 2018; Edeigba et al., 2020), very few studies have used this framework in the field of sustainability reporting.

In this research paper, we aim to investigate whether Gray's model could be applied to this field of sustainability reporting and if it could explain the differences in SRA across firms. More specifically, this study seeks to determine whether cultural accounting values affect companies' decision to externally assure their sustainability reports. For this purpose, we develop three hypotheses pertaining to three different accounting values².

2.2.1. Secrecy (versus Transparency)

Gray (1988, p.8) defined the secrecy dimension as “*a preference for confidentiality and the restriction of disclosure of information on the subject of a business transaction and publicly accountable approach*”. According to the literature (Salter & Niswander, 1995; Zarzeski 1996; Doupnik & Riccio, 2006; Chand et al., 2012)., this dimension is strongly related to the quality and quantity of information disclosed. In other words, this literature has shown that as a

² We have excluded the professionalism/statutory control dimension because we believe that it is irrelevant to our research, as this dimension pertains to the status of the accounting profession (independent or subject to the control of the state) and not to the accounting choices, preferences, or practices.

country's level of secrecy increases, the quantity and quality of financial information disclosed by companies in that country should decrease, and vice versa.

Hope et al. (2008) investigated whether secrecy is an important determinant of financial reporting quality through its effect on a firm's choice of auditors. They concluded that firms from countries with high levels of secrecy are less likely to choose Big 4 auditors. This provides evidence that the level of secrecy is negatively related to the quality of financial reporting, since being audited by one of the Big 4 companies is expected to improve the quality of financial reporting.

As SRA should improve the quality of sustainability reporting and enhance transparency, we assume that companies from countries with high levels of secrecy would be less likely to externally assure their sustainability reports. Consequently, our first hypothesis is the following:

H1. There is a negative relationship between the country secrecy level and the SRA of companies from this country.

2.2.2. *Conservatism (versus Optimism)*

According to Gray (1988, p.8), the conservatism is a society's preference: "*for a cautious approach to measurement so as to cope with the uncertainty of future events as opposed to a more optimistic, laissez-faire, risk-taking approach*".

Conservatism value is deeply related to the cultural dimension of uncertainty avoidance. (Gray, 1988). As such, conservatism would discourage companies from adopting new practices like SRA. This was supported by Somoza (2022) who investigated the role of country origin variables (including cultural variables) in explaining voluntary sustainability assurance in small and medium-sized entities in Europe. He found that uncertainty avoidance reduces the probability of SRA and concluded that this result might be due to the fact that "assurance is seen as a possible source of conflict if reality is not in line with disclosure" (Somoza, 2022, p.16).

Based on this discussion, we anticipate that companies from countries with high levels of conservatism would be less likely to externally assure their sustainability reports. Thus, our second hypothesis is the following:

H2. There is a negative relationship between the conservatism level in a given country and the SRA of companies from this country.

2.2.3. Uniformity (versus flexibility)

Uniformity dimension stands for “*a preference for the enforcement of uniform accounting practices between companies and for the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies*” (Gray, 1988, p.8).

Little is known about how uniformity, as cultural accounting value (Gray, 1998), affects sustainability practices. However, we could expect that for a comparability purpose within a given country, a high level of uniformity should foster a common reliance on external assurance.

Consequently, we assume that companies from countries with high levels of uniformity would be more likely to externally assure their sustainability reports. The third hypothesis of our study is the following:

H3. There is a positive relationship between the uniformity level in a given country and the SRA of companies from this country.

3. Research Design

3.1 Data sources

The sample used in this study consists of the Fortune Global 500 list³ (published in 2017). This ranking includes the world’s 500 largest companies according to the total revenue for their respective fiscal years ended on or before March 31, 2017. The choice of this ranking is consistent with previous studies which has used the Fortune global 500 to analyse and compare SR practices (Crespy and Miller, 2011; Legendre and Coderre, 2013) or more specifically SRA (Kolk & Perego, 2010; Perego & Kolk, 2012).

³ <https://fortune.com/global500/2017/search/>

To identify whether these 500 companies assure their sustainability reports, we have used data from **GRI's Sustainability Disclosure Database**⁴. This database listed sustainability reports across the world and provided various categories of information, including report type, adherence level, **external assurance**⁵, type of assurance provider, etc. When a Fortune global 500 company was not listed in this database, we have examined its corporate website to download and analyse its sustainability report.

The data collected regarding SRA was for the fiscal year ended on or before March 31, 2018. We chose to collect data with a one-year lag in order to measure the association of a company financial features in 2017 with the decision to assure the 2018 sustainability report.

Nevertheless, we were not able to gather data for all 500 companies due to the lack of detailed information about SRA for some of them. Finally, our sample consists of 434 companies from 36 different countries. Among these companies, 163 relied on a third-party⁶ to assure their sustainability report, while 271 did not.

3.2 Dependent variables

According to previous studies (Simnett et al., 2009; Gillet-Monjarret, 2015; Martínez-Ferrero and García-Sánchez, 2017), the dependent variable, called **SRASSUR**, is a binary variable that takes **1** if the sustainability report is **assured** (some type of assurance provided by accountant; engineering firm; or small consultancy/ boutique firm), and **0** otherwise.

3.3 Independent and control variables

We use three independent variables to measure accounting values: **SEC** (Secrecy), **CON** (Conservatism) and **UNI** (Uniformity). All of them are based on Hofstede cultural dimension scores⁷ as mentioned in table 1 above. To compute the score for each accounting value, we only consider the cultural dimensions deemed to have a significant relationship with that value

⁴: <https://database.globalreporting.org/search/>. Since April 2021, this database is no longer available.

⁵ According to GRI's Sustainability Disclosure Database (GRI, 2020), the information related to SRA was taken from the available assurance statement found in the Report.

⁶ Three types of third-party assurance Providers were identified by GRI's Sustainability Disclosure Database : accountant; engineering firm; small consultancy/ boutique firm.

⁷ Hofstede Index: <https://www.hofstede-insights.com/>

(Gray, 1988 & Radebaugh et al., 2006). Thus, the three accounting values are calculated as follows:

- **SEC** = Power Distance + Uncertainty avoidance – Individualism
- **CON** = Uncertainty avoidance
- **UNI** = Uncertainty avoidance – Individualism

We also use five control variables that previous literature recognized as highly correlated with the SRA, as discussed earlier in this article. Three of them are firm-level variables, namely **size**, **profitability**, and **industry**. The two others control variables relate to countries in which the company is based: **economic development**⁸ and **law**.

3.4 Statistical Analysis Method

In order to examine the association between the SRA and the cultural accounting values, we ran three binary logistic regressions as performed by several previous empirical studies investigating determinants of SRA (Simnett et al., 2009; Martínez-Ferrero and García-Sánchez, 2017; Somoza, 2022).

Hence, the three statistical regressions are as follow:

Statistical model 1 (Logistic regression): $\text{Prob} [\text{SRASSUR}=1] = \beta_0 + \beta_1 \text{SEC} + \beta_2 \text{SIZE} + \beta_3 \text{PROF} + \beta_4 \text{INDUS} + \beta_5 \text{GDPPC} + \beta_6 \text{LAW} + \varepsilon$

Statistical model 2 (Logistic regression): $\text{Prob} [\text{SRASSUR}=1] = \beta_0 + \beta_1 \text{CON} + \beta_2 \text{SIZE} + \beta_3 \text{PROF} + \beta_4 \text{INDUS} + \beta_5 \text{GDPPC} + \beta_6 \text{LAW} + \varepsilon$

Statistical model 3 (Logistic regression): $\text{Prob} [\text{SRASSUR}=1] = \beta_0 + \beta_1 \text{UNI} + \beta_2 \text{SIZE} + \beta_3 \text{PROF} + \beta_4 \text{INDUS} + \beta_5 \text{GDPPC} + \beta_6 \text{LAW} + \varepsilon$

Where:

- **SRASSUR**: The likelihood of external assurance of sustainability reports (1 if sustainability report is assured by a third party and 0 otherwise)
- **SEC**: Secrecy,

⁸ Many studies have argued that economic development is crucial in explaining differences in CSR and sustainability practices across the world, as developing and emerging countries tend to neglect social and environmental aspects (Fifka, 2013).

- **CON:** Conservatism
- **UNI:** Uniformity
- **SIZE:** Measured by the logarithms of the company's revenues (source: Fortune global 500 list).
- **PROF:** Profitability of the company measured by the ROA ratio (Return On Assets) (source: Fortune global 500 list);
- **INDUS:** a binary variable that takes 1 if the company belongs to a high-risk industry and 0 otherwise (source: Fortune global 500 list). In line with Legendre and Coderre (2013) and Gallen and Peraita (2017), we use Hackston and Milne (1996) classification which identify nine high-risk industries: petroleum, chemical, forest and paper, automobile, airline, oil industries, agriculture, liquor and tobacco, and media and communications;
- **GDPPC:** Economic development is measured by the logarithms of GDP per capita of a country (source: World Development Indicators⁹) and;
- **LAW:** a binary variable that takes 1 if the company is from a common-law country and 0 otherwise (source: JuriGlobe-World legal systems Research group, University of Ottawa, 2019).

4. Empirical Results

4.1. Descriptive statistics

Firstly, table 2 summarizes data obtained about dependant variable and country level variables. For instance, we observe that out of the 434 companies that published sustainability reports in 2018, only 163 used a third party to assure that report. Furthermore, of the 36 countries to which the 434 companies observed belong, 7 have a common law legal system.

⁹ <https://data.worldbank.org/indicator/ny.gdp.pcap.cd>.

Table 2: Observations per country and Country-level variables

Country	Companies per country	Sustainability Reports Assured per country		Secrecy	Conser-vatism	Uniformity	Law system		GDP per capita (current US\$)
		Sustainability reports Assured (SRA=1)	Sustainability reports Not Assured (SRA=0)				Common Law	Civil Law	
Argentina	1	1	0	89	86	40		x	12 790.24
Australia	7	7	0	-1	51	-39	x		50 019.97
Belgium	1	1	0	84	94	19		x	41 449.10
Brazil	7	4	3	107	76	38		x	8 712.89
Canada	8	2	6	7	48	-32	x		42 279.90
Denmark	1	0	1	-33	23	-51		x	54 467.10
Finland	1	1	0	29	59	-4		x	43 493.42
France	29	8	21	83	86	15		x	36 962.22
Germany	29	19	10	33	65	-2		x	42 443.47
Hong Kong	4	2	2	72	29	4		x	43 734.25
India	7	3	4	69	40	-8	x		1 729.27
Indonesia	1	0	1	112	48	34		x	3 562.85
Ireland	1	1	0	-7	35	-35	x		63 197.08
Israel	1	0	1	40	81	27		x	37 371.63
Italy	7	6	1	49	75	-1		x	30 830.92
Japan	49	18	31	100	92	46		x	38 794.33
Korea, Republic of	14	13	1	127	85	67		x	27 608.25
Luxembourg	1	1	0	50	70	10		x	101 305.53
Mainland China	76	9	67	90	30	10		x	8 078.79
Malaysia	1	0	1	114	36	10		x	9 671.02
Mexico	2	0	2	133	82	52		x	8 739.14
Netherlands	13	6	7	11	53	-27		x	46 007.85
Norway	1	1	0	12	50	-19		x	70 941.53
Russian Federation	4	2	2	149	95	56		x	8 745.38
Saudi Arabia	1	1	0	150	80	55		x	19 879.30
Singapore	2	1	1	62	8	-12	x		56 724.17
South Africa	1	0	1	33	49	-16		x	5 272.63
Spain	8	7	1	92	86	35		x	26 622.30
Sweden	3	2	1	-11	29	-42		x	51 617.54
Switzerland	13	6	7	24	58	-10		x	80 037.50
Taiwan	5	5	0	110	69	52		x	21 606.69
Thailand	1	1	0	108	64	44		x	5 978.61
Turkey	1	0	1	114	85	48		x	10 820.63
United Arab Emirates	1	0	1	145	80	55		x	38 141.85
United Kingdom	22	5	17	-19	35	-54	x		40 539.92
United States of America	110	30	80	-5	46	-45	x		57 904.20
Total	434	163	271				7	29	

Secondly, table 3 reports the descriptive statistics for independent and control variables. According to our results, the averages for accounting values vary from -33 to 150 with standard deviations from 22.347 to 48.993. On average the logarithms of revenues, as a proxy for the firm's size, is 10.768 with a standard deviation of 0.584. The average of the return on assets (ROA) measuring the profitability is 0.031 and its standard deviation is 0.045. On average, the logarithms of national GDP per capita is 10.296 with a standard deviation of 0.836. Our sample includes 141 firms (32.49%) that belong to high-risk industries and 157 companies belonging to countries (36.18%) that have a common law legal system.

Table 3: Descriptive Statistics

	Variable	N	Mean	Standard Deviation	Min	Max	Variable=1	
							N	%
Independent variables	SEC	434	49.677	48.993	-33	150		
	CON	434	56.323	22.347	8	95		
	UNI	434	-3.836	36.192	-54	67		
Control variables	SIZE	434	10.768	0.584	9.98	13.09		
	PROF	434	0.031	0.045	-0.237	0.237		
	INDUS	434					141	32.49%
	GDPPC	434	10.296	0.836	7.46	11.53		
	LAW	434					157	36.18%

SEC: Secrecy; **CON:** Conservatism; **UNI:** Uniformity; **SIZE:** the logarithms of total revenues; **PROF:** the return on assets ROA ratio (ROA); **INDUS:** binary variable that takes 1 if the company belongs to high-risk industry and 0 otherwise; **GDPPC:** the logarithms of GDP per capita of a country; and **LAW:** binary variable that takes 1 if the company is from a common-law country and 0 otherwise.

4.2. Correlation between dependants and explanatory variables

Tables 4 reports the correlation coefficients and their significance level. As expected, we note that the accounting values (Secrecy (**SEC**), Conservatism (**CON**) and Uniformity (**UNI**)) are highly correlated with each other. These accounting values are correlated with both the logarithms of GDP per capita and being in a common law country.

Table 4: Pearson Correlation Matrix

	SRASSUR	SEC	CON	UNI	SIZE	PROF	INDUS	GDPPC	LAW
SRASSUR	1								
SEC	0.0531	1							
CON	0.2388***	0.4536***	1						
UNI	0.1419***	0.9569***	0.6368***	1					
SIZE	0.039	-0.0247	-0.0277	-0.0421	1				
PROF	0.0577	-0.1678***	-0.0222	-0.1482***	-0.0592	1			
INDUS	0.0309	0.1275***	0.0684	0.1151**	0.0429	-0.0066	1		
GDPPC	0.1217**	-0.6183***	0.2556***	-0.4279***	0.0282	0.1558***	-0.1478***	1	
LAW	-0.0987**	-0.7955***	-0.4169***	-0.8197***	0.028	0.1964***	-0.1025**	0.4009***	1

*** Significant at the level of 1%, ** Significant at the level of 5% and * Significant at the level of 10%.

SRASSUR: takes 1 if a sustainability report is assured and 0 otherwise. **SEC:** Secrecy; **CON:** Conservatism; **UNI:** Uniformity; **SIZE:** the logarithms of total revenues; **PROF:** the return on assets ROA ratio (ROA); **INDUS:** binary variable that takes 1 if the company belongs to high-risk industry and 0 otherwise; **GDPPC:** the logarithms of GDP per capita of a country; and **LAW:** binary variable that takes 1 if the company is from a common-law country and 0 otherwise.

4.3. Multivariate statistical analysis

Table 5 reports the results of models 1, 2 and 3 which examines the association between assuring sustainability reports and the three cultural accounting values. The three estimated models are statistically significant with a percentage of good classification from 60.80% to 64.70%. Based on the values of the coefficients and their statistical significance, we find that external assurance of sustainability reports is positively associated with the conservatism as well as the uniformity levels. Therefore, we can state that firms in countries with high levels of uniformity and/or high levels conservatism are more likely to externally assure their sustainability reports. As for secrecy, this accounting value seems to not play a significant role in the company decision to assure its sustainability report.

Hence, our statistical results support only hypothesis 3 related to Uniformity accounting value. Even though we find that Conservatism is significantly and positively related to SRA, our results do not support hypothesis 2 as we expected a negative relationship. Finally, hypothesis 1 pertaining to Secrecy value is not supported.

In addition, we note a positive association between assuring sustainability reports and the GDP per capita in models 1 and 3. The other control variables seem not to be statistically correlated to SRA according to our empirical investigations in models 1,2, and 3.

Table 5: Binary logistic regression results (1= Sustainability Report Assured; 0= Otherwise)

Statistical Model 1: Prob [SRASSUR=1] = $\beta_0 + \beta_1$ SEC + β_2 SIZE + β_3 PROF + β_4 INDUS+ β_5 GDPPC + β_6 LAW + ϵ

Statistical Model 2: Prob [SRASSUR=1] = $\beta_0 + \beta_1$ CON + β_2 SIZE + β_3 PROF + β_4 INDUS+ β_5 GDPPC + β_6 LAW + ϵ

Statistical Model 3: Prob [SRASSUR=1] = $\beta_0 + \beta_1$ UNI + β_2 SIZE + β_3 PROF + β_4 INDUS+ β_5 GDPPC + β_6 LAW + ϵ

		Model 1 (SEC)	Model 2 (CON)	Model 3 (UNI)
Variables	Expected Sign	Coefficient (Wald Statistics)	Coefficient (Wald Statistics)	Coefficient (Wald Statistics)
Independent	SEC	(-) 0.005 (1.649)	-	-
	CON	(-) -	0.018*** (8.474)	-
	UNI	(+) -	-	0.014*** (7.993)
Control	SIZE	(+) 0.158 (0.831)	0.176 (1.003)	0.177 (1.016)
	PROF	(+) 3.060 (1.654)	3.133 (1.730)	2.969 (1.548)
	INDUS	(+) 0.166 (0.568)	0.112 (0.251)	0.157 (0.500)
	GDPPC	(+) 0.653*** (13.538)	0.280 (2.675)	0.611*** (15.197)
	LAW	(-) -0.538 (2.241)	-0.318 (1.087)	-0.037 (0.009)
Constant		-9.176	-6.332	-8.811
-2 Log Probability		550.602	543.647	544.078
R ² of Cox and Snell		0.054	0.069	0.068
Model Chi-square		23.889***	30.845***	30.414***
% of Correctly Classification		64.3	60.8	64.7
Sample Size		434	434	434
Number of Countries		36	36	36

*** Significant at the level of 1%. ** Significant at the level of 5% and * Significant at the level of 10%.

SRASSUR: takes 1 if a sustainability report is assured and 0 otherwise. **SEC:** Secrecy; **CON:** Conservatism; **UNI:** Uniformity; **SIZE:** the logarithms of total revenues; **PROF:** the return on assets ROA ratio (ROA); **INDUS:** binary variable that takes 1 if the company belongs to high-risk industry and 0 otherwise; **GDPPC:** the logarithms of GDP per capita of a country; and **LAW:** binary variable that takes 1 if the company is from a common-law country and 0 otherwise.

4.4 Additional Analyses

Table 2 above shows that 25.34 % of our observations come from US companies (110 out of 434 observations). This large number of US companies in our sample may have an impact on the results, which may be driven by cultural accounting values in that country. Following previous studies that faced similar risk of clustering effect (Houqe et al. 2016), we performed a statistical regression on a sub-sample consisting only of non-US companies.

The estimation of the binary logistic regression for non-US firms, as reported in table 6, shows that the SRA is positively associated with both conservatism (CON) and Uniformity (UNI). Furthermore, we note a positive correlation between the SRA and the GDP per capita for all three statistical models. As these two previous findings validate our initial outcomes, we conclude that the observations for the US. companies do not drive our results.

Table 6: Binary logistic regression results for the sub-sample “Non-US Companies” (1= Sustainability Report Assured; 0= Otherwise)

Statistical Model 1: Prob [SRASSUR=1] = $\beta_0 + \beta_1$ SEC + β_2 SIZE + β_3 PROF + β_4 INDUS+ β_5 GDPPC + β_6 LAW + ϵ

Statistical Model 2: Prob [SRASSUR=1] = $\beta_0 + \beta_1$ CON + β_2 SIZE + β_3 PROF + β_4 INDUS+ β_5 GDPPC + β_6 LAW + ϵ

Statistical Model 3: Prob [SRASSUR=1] = $\beta_0 + \beta_1$ UNI + β_2 SIZE + β_3 PROF + β_4 INDUS+ β_5 GDPPC + β_6 LAW + ϵ

		Model 1 (SEC)	Model 2 (CON)	Model 3 (UNI)	
Variables	Expected Sign	Coefficient (Wald Statistics)	Coefficient (Wald Statistics)	Coefficient (Wald Statistics)	
Independent	SEC	(-)	0.006 (2.241)	-	
	CON	(-)	-	0.018*** (8.429)	
	UNI	(+)	-	0.014*** (7.934)	
Control	SIZE	(+)	0.306 (1.923)	0.338 (2.257)	0.332 (2.195)
	PROF	(+)	4.562 (1.789)	4.682 (1.897)	4.356 (1.620)
	INDUS	(+)	0.133 (0.280)	0.058 (0.051)	0.122 (0.229)
	GDPPC	(+)	0.760*** (17.814)	0.383** (5.075)	0.702*** (19.670)
	LAW	(-)	0.327 (0.538)	0.437 (1.325)	0.733 (2.643)
Constant			-11.942	-9.139	-11.431
-2 Log Probability			413.825	407.494	407.959
R ² of Cox and Snell			0.074	0.092	0.091
Model Chi-square			24.895***	31.226***	30.761***
% of Correctly Classification			59.0	59.0	63.0
Sample Size			324	324	324
Number of Countries			35	35	35

*** Significant at the level of 1%. ** Significant at the level of 5% and * Significant at the level of 10%.

SRASSUR: takes 1 if a sustainability report is assured and 0 otherwise. **SEC:** Secrecy; **CON:** Conservatism; **UNI:** Uniformity; **SIZE:** the logarithms of total revenues; **PROF:** the return on assets ROA ratio (ROA); **INDUS:** binary variable that takes 1 if the company belongs to high-risk industry and 0 otherwise; **GDPPC:** the logarithms of GDP per capita of a country; and **LAW:** binary variable that takes 1 if the company is from a common-law country and 0 otherwise.

5. Discussion and Conclusion

In this paper, we aimed to investigate the association between cultural accounting values and SRA. To this end, we examined whether the 2018 sustainability reports of the Fortune Global 500 companies are externally assured or not. Empirical results from three statistical models performed suggest that cultural accounting values do affect SRA, since we provide evidence that companies from countries with high levels of accounting uniformity and/or with high levels of accounting conservatism are more likely to externally assure their sustainability reports.

Firstly, empirical results do not confirm the hypothesis 1, suggesting a negative relationship between secrecy and SRA. This finding is not consistent with previous literature having explored the association between secrecy and reporting or assurance (Salter & Niswander, 1995; Zarzeski 1996; Douplik & Riccio, 2006; Hope et al., 2008; Chand et al., 2012; Orij, 2010).

Secondly, the empirical findings of our study do not support the hypothesis 2, which predicted a negative relationship between conservatism and SRA. In contrast, statistical model 2 provides evidence that conservatism is positively related to SRA, by showing that companies from countries with a high score of conservatism tend to assure more their sustainability reports. This result could be explained by the fact that some companies use external assurance as a guarantee for a cautious approach to measuring environmental or social dimensions so as to cope with the uncertainty of future events. Furthermore, this result is in line with recent empirical studies having investigated the association between Uncertainty avoidance and CSR practices¹⁰. Gallego-Álvarez and Ortas (2017); Miska et al., (2018) or Sannino et al., (2020) analysed the link between Uncertainty avoidance and CSR or sustainability practices. They all concluded that Uncertainty Avoidance positively influences these practices. Hence, unlike the financial accounting literature where conservatism has often been associated with reluctance to change, our results show that within high conservative countries, companies are not reluctant to adopt a new sustainability practice. As an explanation, we believe that in high conservative

¹⁰ As discussed earlier, Conservatism value is deeply related to the cultural dimension of uncertainty avoidance

countries, preparers of sustainability reports are motivated to use third-party assurance because it may allow them to avoid uncertainty related to the disclosure of sustainability information.

Thirdly, we confirm the hypothesis 3, which states that uniformity positively influences the SRA. According to the statistical results of the model 3, the more a company belongs to a country with a high uniformity score, the more likely that its sustainability report will be externally assured. This result might be explained by the fact that external assurance harmonises the sustainability reports published by companies within the same country and, therefore, enforces a uniform sustainability practice.

Regarding the control variables, our results slightly diverge from previous studies. On the one hand, our results are consistent with the literature on the role of country wealth (Fifka, 2013) in determining and influencing sustainability practices such as SRA. On the other hand, firm size, law, profit, and industry do not seem to have a significant influence on SRA in our sample. These results are inconsistent with the findings of previous literature on determinants of SRA (Simnett et al., 2009; Zorio et al., 2013; Cho et al., 2014; Farooq & De Villiers, 2017; Maroun, 2020).

This study has both theoretical and managerial implications. From a theoretical standpoint, our results contribute to the knowledge about the “Theory of Cultural Influence on the Development of Accounting Systems Internationally”, as suggested by Gray (1988). By testing the relevance of Gray’s model to explain a specific accountability practice, such as SRA, we contribute to expand the scope of this theory and provide evidence that cultural accounting values determine not only financial reporting practices across the world (Salter & Niswander, 1995; Douppnik & Riccio 2006; Noravesh, 2007; Hope et al., 2008), but also sustainability reporting ones. Additionally, our results enrich the knowledge and literature on the determinants of SRA by providing evidence that cultural variables are associated with the decisions of large companies around the world to engage in third-party assurance of their sustainability reports. These cultural theoretical frameworks complement the contractual or institutional theories that have been traditionally employed to analyse the factors influencing SRA (Perego and Kolk, 2012; Martínez-Ferrero and García-Sánchez, 2017; Gillet-Monjarret, 2018; Maroun, 2020).

As for the managerial implications, our findings are relevant for assurance standard-setters, preparers of sustainability reports, and assurance providers. All of these actors are involved in the assurance process of sustainability reporting. The knowledge of the factors that

favour or impede companies to use SRA is of major interest to them. This could encourage international assurance standard-setters to take cultural factors into account when publishing and promoting new standards, in order to facilitate and expand their adoption. Similarly, it could lead multinational companies to consider cultural accounting differences when preparing sustainability reports or selecting assurance providers. Finally, our empirical outcomes may help assurance providers to understand the various positions of companies towards the SRA, and thus to adapt their processes accordingly.

Although our results enrich current theoretical and managerial knowledge, further investigations using additional tests, other country characteristics, an expansion of the sample in terms of years covered, or additional theoretical frameworks, are needed to explore other factors that might influence SRA.

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