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Assurance on sustainability reports in the agri-food industry

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1. INTRODUCTION

According to the stakeholder theory, companies form a part of a wider social system in which their commercial activities affect, and are affected by, other stakeholder groups in society (Freeman, 1983; Deegan, 2002). Stakeholders increasingly demand accountability and transparency of corporate behaviour (Kolk, 2008). This situation has led companies to incorporate sustainability into their business strategy in order to face the pressure to respond to environmental challenges, social issues and persistent concerns about governance and responsibility (Simnett, 2012).

Stakeholder's acknowledgment needs to be able to meet their needs, and an information policy that allows the assumption of such commitments needs to be visualised (Archel, 2003). As noted by Illia et al. (2010), an essential element of sustainability is communication with an appropriate degree of disclosure. In this sense, sustainability reporting is the process by which organisations communicate the social and environmental effects of their economic actions to stakeholder groups in society and to society

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at large (Gray et al., 1996). It is a way by which companies can show their corporate legitimacy to stakeholders (Deegan and Rankin, 1999; ACCA, 2001, 2004; Spence and Gray, 2007).

Years ago, no generally accepted standard ruled sustainability reporting (Simnett, 2012), but nowadays some standards ensure the homogeneity and quality of sustainability reports. The most widely used reporting standard in practice is the Sustainability Reporting Guidelines from the Global Reporting Initiative (GRI). Launched in 2006, version G3 features sustainability disclosures that organisations can adopt flexibly and incrementally, which enable them to be transparent about their performance in key sustainability areas. In 2011, GRI released the version G3.1, which completes the content in the previous version. Today G4 is the current version of the GRI Guidelines. It highlights the accountability and transparency concepts, and is based on the stakeholder inclusiveness principle, among others. According to GRI (2011a), sustainability reporting involves measuring, disclosing and being accountable to internal and external stakeholders.

However, as sustainability reporting matures, the need for credible reported information increases. The credibility of the information provided in sustainability reports enhances through voluntary assurance (Adams and Evans, 2004), which improves the relevance, reliability and comparability of such reports (Simnett, 2012). The need for credibility has promoted the development of relevant assurance frameworks (FEE, 2004, 2006). Thus the two standards predominantly applied by assurance providers in performing assurance engagements on sustainability reporting are the *AA1000 Assurance Standard (AA1000AS)* from AccountAbility and the *International Standard of Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (ISAE 3000)* from the International Auditing and Assurance Standards Board (IAASB). AA1000AS is an internationally accepted, freely available standard that provides requirements for conducting sustainability assurance, and it is based on AA1000APS (AccountAbility, 2008). ISAE 3000 is a generic standard that provides principles and procedures for accounting firms to follow when reviewing non-financial information (IAASB, 2008). The combination of both provides enhanced results because they are comple-

mentary in that they provide a comprehensive and robust assurance process, which should satisfy the needs of both management and other stakeholders (Accountability and KPMG, 2005).

Several studies have shown the behaviour of companies as regards external assurance from a multisector perspective, but very few studies have focused on a particular industry. Thus we aimed to perform an exploratory analysis about sustainability assurance in the Agri-Food industry, which includes firms from agriculture and from food and beverage industries. We firstly made a comparison between this industry and other industries as regards to adoption of assurance and choice of assuror. Secondly, we studied whether the determinants posited in the literature (country, size and listing status) are associated with the decision to adopt assurance and to choose an assuror.

The paper proceeds as follows. In the following section, we present a literature review. Afterwards, we describe the research method and the sample characteristics. Then we present the results of our analysis, and finally we offer our conclusions.

2. STATE OF THE ART

The change in the way business is conducted since the late 1980s and early 1990s, together with the increasing relevance of the sustainability concept in a globalised scenario, have transformed the business world (Moneva et al., 2006; Mori Junior, 2009; Perego, 2009; Phatak et al., 2005).

The search for sustainability is an important topic in the Agri-Food industry (Bremmers et al., 2007) since current food systems rely heavily on non-renewable energy resources (Pelletier et al., 2011). Despite the heavy burden of Agri-Food companies on land, water and air, and after recent outbreaks of disruptive illnesses, most have no associated sustainability image. However, the emergence of environmental reporting has shown that Agri-Food sector companies are now well aware of their responsibilities (Wheeler and Elkington, 2001; Cerin, 2002).

The agricultural sector has gone through an intensive development process which has resulted in major structural changes, not only in the sector itself, but also in the relationship of the agrarian system to natural resources (Duarte et al., 2015).

In the sustainability context, the food industry also faces specific challenges for three reasons (Hartmann, 2011): its strong impact and heavy dependence on natural, human and physical resources (Genier et al., 2009; GfK et al., 2009); production requirements of raw materials, the environmental and social conditions along the whole value chain, and the quality, healthiness and safety of products (Maloni and Brown, 2006); the unique multi-faceted structure of the food chain. Different approaches to sustainability taken by small and large enterprises imply potential conflicts as regards sustainability involvement in the food supply chain (Hartmann, 2011).

Energy is used throughout the food supply chain, ranging from production to consumption, and moving through processing, packaging, distribution, transportation, preservation and preparation, and such use has several environmental impacts (Canning et al., 2010; Infante-Amate and González de Molina, 2013).

By evaluating energy, Infante-Amate and González de Molina (2013) showed that agrarian production is responsible for more than one third of fossil fuel consumption in the entire food system. Yet the processes involved in the transportation, processing, packaging and sales in food retail outlets, and in the preservation/storage and preparation of food at home, are responsible for the remaining two thirds of the energy invested in the whole food process. Food production, processing and household-level activities account for the largest proportions of total energy use in the food system. Food miles do not contribute as much to the commonly assumed energy intensity of food products (Pelletier et al., 2011), and it is the carbon emission per unit of produce over the transport chain that really matters (Coley et al., 2009).

Duarte et al. (2015) pointed out a large increase in virtual water exports and imports, driven primarily by a growing integration into international markets.

Effective opportunities to enhance food system sustainability exist in changing consumer behaviour, which will have compounding benefits across all agricultural production, distribution and food disposition stages (Heller and Keoelian, 2003). Fossil energy use in the food system can be reduced by making appropriate technology changes in food production, processing, packaging, transportation and consumption (Pimentel et al., 2008). Considerable opportunities exist for improving energy efficiencies, but the scale of food system energy use will likely continue to increase due to population growth and changing consumer patterns. Social and political drivers must be considered alongside appropriate technologies (Pelletier et al., 2011).

A change towards organic farming and corresponding new consumer patterns (i.e., local, seasonal food, eating less meat) may considerably reduce resource use in the Agri-Food system and could contribute to sustainable de-growth (Infante Amate and González de Molina, 2013). Reducing food consumption and following healthier diets would facilitate even greater energy savings (Pimentel et al., 2008). Given the wide variation in energy intensity within and between crop and livestock products, dietary choice is a key determinant of food system energy use (Pelletier et al., 2011).

Adoption of renewable energy systems, such as biomass and photovoltaic cells, coupled with efficient farming practices, could help cut the use of fossil fuel in the food system (Pimentel et al., 2008; Canning et al., 2010).

Neutralising threats or exploiting opportunities due to public concerns requires a comprehensive approach to sustainability by addressing the environmental and social issues that are relevant for stakeholders, and by suitably communicating them (Piacentini et al., 2000; Heikkurinen and Forsman-Hugg, 2011).

In this context, sustainability reports have acted as an essential communication tool between organisations and their stakeholders, and focus on environmental and social performance (Mori Junior, 2014).

As mentioned in a study by Sustainability and UNEP (1998), the reasons for reporting are to enhance the ability to track progress against specific targets; facilitate the implementation of the environmental strategy; raise

awareness of environmental issues throughout the organisation; acquire the ability to clearly communicate the corporate message; greater transparency to improve credibility; ability to convey efforts and standards; licence to operate and campaign; reputational benefits; identify cost savings; increased efficiency; enhanced business development opportunities; staff morale (Kolk, 2004; Kolk, 2010).

Thus the number of sustainability reports has considerably grown in the last few years (Kolk, 2004; O'Dwyer and Owen, 2005). According to KPMG (2013), 82% of the Global 250 (G250: the top 250 companies of the Fortune 500 index) and 71% of the National 100 (N100: the top 100 companies in 41 countries where KPMG operates) follow the GRI Sustainability Guidelines to report on their economic, environmental and social performance. In the GRI Database universe, the food and beverage industries occupied the fourth place in sustainability reporting in 2011 (GRI, 2011b). This practice increased among the firms from this sector until 2012, when the number of reports dropped by 6% (GRI, 2013). These data clearly show the wide disclosure of information on sustainability (Manetti and Becatti, 2009). Yet the percentage of companies from the agriculture industry that have published a sustainability report in 2011 was very low (GRI, 2011b).

Despite increased sustainability reporting, some authors have been critical about lack of transparency and accountability (Owen et al., 2000; Dando and Swift, 2003; Adams and Evans, 2004). Some stakeholders have also demanded more transparency and questioned the integrity of published information (Laufer, 2003; Moneva et al., 2006; Ramus and Montiel, 2005). Consequently, some companies have started to adopt external assurance to enhance their credibility in the face of their stakeholders (Perego and Kolk, 2012). Currently, 59% of G250 companies and 38% of N100 companies use assurance as a strategy to verify and assess their sustainability reports (KPMG, 2013). According to GRI (2013), the percentage of external assurance among all 2012 GRI-based reports was 46% on a global scale, and 40% in food and beverage industries.

Previous studies have investigated the factors that influence adoption of assurance. Using a sample of 2,113 companies (from 31 countries) between 2002-2004, Simnett et al. (2009) found that the companies located

in stakeholder-oriented countries and with stronger legal environments were more likely to adopt assurance. Their results also showed that adoption of assurance was more commonplace among the companies engaged in more highly visible industrial activity, and those with a larger 'social footprint'. These authors also pointed out that large companies were more likely to assure their sustainability reports. Kolk and Perego (2010) analysed the behaviour of G250 firms for the years 1999, 2002 and 2005, and found that the likelihood of adopting assurance was greater for firms domiciled in countries that were stakeholder-oriented with weaker enforcement mechanisms. Sierra et al. (2013) and Zorio et al. (2013) focused on the companies listed on the Spanish capital market between 2005 and 2010. Zorio et al. (2013) underlined inclusion in IBEX-35 (the benchmark stock market index of Spanish capital markets) as another determinant to apply assurance. They also found that size and industry significantly explained assurance. Specifically for IBEX-35 companies, the decision to adopt assurance depended on company size, and associated positively with ROA and negatively with ROE and leverage (Sierra et al., 2013). With their sample of Portuguese firms between 2008 and 2011, Castelo et al. (2014) pointed out that industrial affiliation was another determinant. Their results showed that as company size and profitability increased, companies were more likely to apply assurance, whereas the reverse happened for leverage. They also revealed that listed companies were less likely to have their sustainability reports assured.

Other research works have analysed determinants of choice of assuror. The findings showed a significant positive association between company size and choice of a member of the auditing profession as an assurance provider. Large firms were more likely to choose large accounting firms (Simnett et al., 2009; Kolk and Perego, 2010). According to Simnett et al. (2009), companies domiciled in countries that were more stakeholder-orientated were more likely to choose assurance from the auditing profession. In contrast, Kolk and Perego (2010) affirmed that the likelihood of choosing a large accounting firm as an assurance provider increased for companies domiciled in shareholder-oriented countries. Perego (2009) also sustained that among the firms listed for the 2005 ACCA Sus-

tainability Reporting Awards, those domiciled in weaker legal systems were more likely to choose a large accounting firm as an assuror. According to Sierra et al. (2013), certain industries (such as oil and energy, basic materials, and financial services) significantly tended to hire auditors as assurance providers. Zorio et al. (2013) found evidence that inclusion in a stock exchange and industry clearly and significantly affected the decision to hire an assuror.

However, very few studies have focused on a specific industry; e.g., Fonseca (2010), who evaluated the quality of assurance provided to companies from the mining industry. As far as we know, no study has focused on the Agri-Food industry, and this is why our research work explored assurance in Agri-Food firms. Specifically, we analysed whether this industry was more likely to adopt assurance than other industries, and we studied the determinants associated with voluntarily assurance on sustainability reports and choice of assurance providers. Accordingly, we posed the following research questions:

RQ1: Is the Agri-Food industry more likely than other industries to assure their sustainability reports?

RQ2: Is the decision to adopt assurance associated with the country status where the company is located, company size and listing status?

RQ3: Is the Agri-Food industry more likely to choose accountants as assurance providers than other industries?

RQ4: Is the choice of assurance provider associated with the country status where the company is located, company size and listing status?

3. SAMPLE AND METHODOLOGY

3.1 Sample and data collection

For the purpose of our study, we employed the GRI Sustainability Disclosure Database to look for companies around the world that pertained to the agriculture industry and to the food and beverage industries (the Agri-Food sector) that disclosed a GRI-based sustainability report between 2012 and 2013. According to GRI (2011b), a GRI report is any form of

sustainability report that has used the GRI Guidelines (versions G3, G3.1 or G4) and contains a Content Index. However, the GRI Database also includes other forms of sustainability and integrated reports that it classifies as 'Non-GRI' and 'GRI-Referenced' reports. Therefore, we selected only those companies whose reports followed guidelines G3, G3.1 or G4, and we excluded 'Non-GRI' and 'GRI-referenced' reports.

Table 1 summarises the sample characteristics. The sample was composed of 346 sustainability reports, 78.9% of which belonged to food and beverage firms and 21.2% to agricultural firms. As regards country status, 60.1% of reports were issued by companies located in OECD (Organisation for Economic Co-operation and Development) countries, while 39.9% were issued by companies located in non-OECD countries. Regarding company size, reporting was more frequent among large companies (62.7%), followed by multinational enterprises (MNEs) (25.4%) and small and medium-sized enterprises (SMEs) (11.8%). As regards listing status, the proportions between listed and non-listed companies were similar (50.6% and 49.4%, respectively).

Table 1

SAMPLE DESCRIPTION

Sustainability reports	n	%	Assurance statements	n	%
Country status			Country status		
Non-OECD	138	39.9	Non-OECD	43	37.7
OECD	208	60.1	OECD	71	62.3
Company size			Company size		
SME	41	11.8	SME	10	8.8
Large	217	62.7	Large	69	60.5
MNE	88	25.4	MNE	35	30.7
Listing status			Listing status		
Non-listed	171	49.4	Non-listed	46	40.4
Listed	175	50.6	Listed	68	59.6
Assurance			Type of provider		
No	232	67.1	Non-accountant	45	39.5
Yes	114	32.9	Accountant	69	60.5
Total	346	100.0	Total	114	100.0

Source: GRI database (accessed on July 2014).

Afterwards we checked whether sustainability reports were assured. We found that 32.9% of the Agri-Food firms subjected their reports to external assurance, of which 90.4% were from the food and beverage industries and 9.6% from the agriculture industry. Adoption of assurance was more commonplace among firms located in OECD countries (62.3%) than among firms found in non-OECD countries (37.7%). For company size, we found that 30.7% of MNEs, 60.5% of large organisations and 8.8% of SMEs were assurance adopters. When we examined listing status, listed companies were more favourable to adopt assurance (59.6%) than non-listed ones (40.4%). When we differentiated according to provider type, 60.5% of the assurance engagements were carried out by accountants and 39.5% by non-accountant providers.

3.2. Measuring variables

The aim of this paper was to study the factors associated with the decision to adopt assurance and choice of assuror. Thus by means of cross tabulations and the Pearson chi-square test, we analysed the associations between adoption of assurance and (a) the Agri-Food industry; (b) the country status where the company was located; (c) company size; and (d) listing status. We also analysed the associations between choice of assuror and the same factors. To define the variables, we adapted the definitions included in the GRI data legend (GRI, 2012).

Thus the ASSURANCE variable indicated whether a sustainability report was assured. It took the value '0' if it was not assured and '1' if it was.

The TYPE OF PROVIDER variable specified the type of firm that provided external assurance. It took a value of '0' if the assurance provider was from outside the accounting profession (including engineering firms and small consultancies/boutique firms) and a value of '1' when the assurance provider was from the accounting profession.

The INDUSTRY variable referred to the industry in which the company undertook its activity, which was studied from three perspectives. The first indicated whether the company operated in the Agri-Food industry, while the second and third perspectives showed whether the company be-

longed to the agriculture or food and beverage sectors, respectively. This variable took a value of '0' if the company did not operate in the respective industry, and '1' if it did.

The COUNTRY STATUS variable showed whether the country where the reporting organisation was located was an OECD member or not. This variable took a value of '0' for a non-OECD country, and '1' for an OECD country.

According to the GRI and EU definitions, the SIZE variable took a value of '0' for SMEs (fewer than 250 employees, with a turnover below 50 million € or with assets below 43 million €), '1' for large companies (more than 250 employees and more than 50 million € in a turnover or 43 million € in assets), and '2' for MNE (large and multinational).

The LISTING STATUS variable indicated whether a company was listed in a stock exchange or not. It took a value of '0' when the company was not listed, and '1' otherwise.

4. RESULTS

According to the results presented in Table 2 (panel a), 32.9% of companies in the Agri-Food industry adopted assurance compared to 42.2% in other industries and 41.5% on the global scale. This is consistent with GRI data (2013), which showed that the percentage of reports assured in the food and beverage industries was below the general percentage, as noted before. We found a significant association between this industry and adoption of assurance ($p < 0.01$), where Agri-Food companies were less likely to adopt assurance than other industries.

When we separately analysed both the agriculture industry and the food and beverage industries (panel b and c), we found that 15.1% of the companies from the agriculture sector and 37.7% of those from the food and beverage industries adopted assurance. Hence we found significant differences for adoption of assurance in the agriculture industry compared to other industries ($p < 0.01$), with agriculture companies being less likely to assure their sustainability reports. However, the differences observed

between the food and beverage sectors and other industries were not significant ($p > 0.10$).

Table 2

ASSOCIATION BETWEEN ADOPTION OF ASSURANCE AND INDUSTRY

Panel a-Agri-food industry		No	Yes	Total
Otherwise	Count	2,845	2,073	4,918
	% within Agri-food industry	57.8%	42.2%	100.0%
Agri-food	Count	232	114	346
	% within Agri-food industry	67.1%	32.9%	100.0%
Total	Count	3,077	2,187	5,264
	% within Agri-food industry	58.5%	41.5%	100.0%
Pearson Chi-Square = 11.274; p = 0.001				
Panel b-Agriculture industry		No	Yes	Total
Otherwise	Count	3,015	2,176	5,191
	% within Agriculture industry	58.1%	41.9%	100.0%
Agriculture	Count	62	11	73
	% within Agriculture industry	84.9%	15.1%	100.0%
Total	Count	3,077	2,187	5,264
	% within Agriculture industry	58.5%	41.5%	100.0%
Pearson Chi-Square = 21.370; p = 0.000				
Panel c-Food and beverage industry		No	Yes	Total
Otherwise	Count	2,907	2,084	4,991
	% within Food and Beverage industry	58.2%	41.8%	100.0%
Food and beverage	Count	170	103	273
	% within Food and Beverage industry	62.3%	37.7%	100.0%
Total	Count	3,077	2,187	5,264
	% within Food and Beverage industry	58.5%	41.5%	100.0%
Pearson Chi-Square = 1.728; p = 0.189				

Table 3 (panel a) reveals that 34.1% of the sustainability reports from the Agri-Food firms located in an OECD country were assured. Similarly, the firms located in non-OECD countries assured 31.2% of sustainability reports. Percentages were similar, and in both cases reports were mostly

not assured. In line with this, no significant association was found between country status and the decision to assure ($p > 0.10$). This implies a peculiarity in the Agri-Food sector compared to general behaviour. On a global scale, and from a multisector perspective (panel b), we found that 44.8% of the sustainability reports from firms domiciled in OECD countries were assured vs. 36.2% in non-OECD countries. Thus adoption of assurance significantly associated with country status ($p < 0.01$). In general, and regardless of the industry, firms from OECD countries were more likely to assure their reports.

Table 3

ASSOCIATION BETWEEN ADOPTION OF ASSURANCE AND COUNTRY STATUS

Panel a-Agri-food industry		No	Yes	Total
Non-OECD	Count	95	43	138
	% within Country Status	68.8%	31.2%	100.0%
OECD	Count	137	71	208
	% within Country Status	65.9%	34.1%	100.0%
Total	Count	232	114	346
	% within Country Status	67.1%	32.9%	100.0%
Pearson Chi-Square = 0.332; p = 0.564				
Panel b-Global scale		No	Yes	Total
Non-OECD	Count	1,269	720	1,989
	% within Country Status	63.8%	36.2%	100.0%
OECD	Count	1,808	1,467	3,275
	% within Country Status	55.2%	44.8%	100.0%
Total	Count	3,077	2,187	5,264
	% within Country Status	58.5%	41.5%	100.0%
Pearson Chi-Square = 37.641; p = 0.000				

The results in Table 4 (panel a) show that, regardless of company size, sustainability reports were mostly unassured. Only 24.4% of the reports from SMEs, 31.8% of the reports from large companies and 39.8% from MNEs were assured. Thus we found no significant association between company size and adoption of assurance ($p > 0.10$). After analysing all the companies (panel b), we noted that the percentage of assured reports

was higher for large companies (44.9%), followed by MNEs (37.9%) and SMEs (30%). Hence the association between size and adopting assurance was significant ($p < 0.01$).

Table 4

ASSOCIATION BETWEEN ADOPTION OF ASSURANCE AND SIZE

Panel a-Agri-food industry		No	Yes	Total
SME	Count	31	10	41
	% within Size	75.6%	24.4%	100.0%
Large	Count	148	69	217
	% within Size	68.2%	31.8%	100.0%
MNE	Count	53	35	88
	% within Size	60.2%	39.8%	100.0%
Total	Count	232	114	346
	% within Size	67.1%	32.9%	100.0%
Pearson Chi-Square = 3.345; $p = 0.188$				
Panel b-Global scale		No	Yes	Total
SME	Count	435	186	621
	% within Size	70.0%	33.0%	100.0%
Large	Count	1,907	1,552	3,459
	% within Size	55.1%	44.9%	100.0%
MNE	Count	735	449	1,184
	% within Size	62.1%	37.9%	100.0%
Total	Count	3,077	2,187	5,264
	% within Size	58.5%	41.5%	100.0%
Pearson Chi-Square = 56.499; $p = 0.000$				

As we can see in Table 5 (panel a), 38.9% of listed companies adopted assurance, compared to 26.9% of unlisted companies. These differences were significant compared with adoption of assurance ($p < 0.05$), whereby the companies listed in a stock exchange were more favourable to assure their sustainability reports. Similarly, and on the whole (panel b), the percentage of assured reports was higher among listed companies (46.4%) than among unlisted companies (35.2%). Hence adoption of assurance

associated significantly with listing status ($p < 0.01$) since listed companies were more likely to assure their reports.

Table 5

ASSOCIATION BETWEEN ADOPTION OF ASSURANCE AND LISTING STATUS

Panel a-Agri-food industry		No	Yes	Total
Unlisted	Count	125	46	171
	% within Listing status	73.1%	26.9%	100.0%
Listed	Count	107	68	175
	% within Listing status	61.1%	38.9%	100.0%
Total	Count	232	114	346
	% within Listing status	67.1%	32.9%	100.0%
Pearson Chi-Square = 5.597; $p = 0.018$				
Panel b-Global scale		No	Yes	Total
Unlisted	Count	1,481	803	2,284
	% within Listing status	64.8%	35.2%	100.0%
Listed	Count	1,596	1,384	2,980
	% within Listing status	53.6%	46.4%	100.0%
Total	Count	3,077	2,187	5,264
	% within Listing status	58.5%	41.5%	100.0%
Pearson Chi-Square = 67.808; $p = 0.000$				

As shown in Table 6, 59.6% of the Agri-Food industry companies preferred accountants to apply assurance compared to 60.8% of companies from other industries, which was the same percentage as the general one on the global scale. However these differences were slight. Therefore, no significant association was found between belonging to the Agri-Food industry and adopting assurance ($p > 0.10$).

The findings of our separate analyses revealed that agricultural firms tended to hire non-accountants as assurance providers, while food and beverage firms opted for accountants. Nevertheless, these differences were not significant when compared with other industries ($p > 0.10$).

Table 6

ASSOCIATION BETWEEN CHOICE OF PROVIDER AND INDUSTRY

Panel a-Agri-food industry		Non-accountant	Accountant	Total
Otherwise	Count	812	1,261	2,073
	% within Agri-food industry	39.2%	60.8%	100.0%
Agri-food	Count	46	68	114
	% within Agri-food industry	40.4%	59.6%	100.0%
Total	Count	858	1,329	2,187
	% within Agri-food industry	39.2%	60.8%	100.0%
Pearson Chi-Square = 0.063; p = 0.802				
Panel b-Agriculture industry		Non-accountant	Accountant	Total
Otherwise	Count	852	1,324	2,176
	% within Agriculture industry	39.2%	60.8%	100.0%
Agriculture	Count	6	5	11
	% within Agriculture industry	54.5%	45.5%	100.0%
Total	Count	858	1,329	2,187
	% within Agriculture industry	39.2%	60.8%	100.0%
Pearson Chi-Square = 1.087; p = 0.297				
Panel c-Food and beverage industry		Non-accountant	Accountant	Total
Otherwise	Count	818	1,266	2,084
	% within Food and Beverage industry	39.3%	60.7%	100.0%
Food and beverage	Count	40	63	103
	% within Food and Beverage industry	38.8%	61.2%	100.0%
Total	Count	858	1,329	2,187
	% within Food and Beverage industry	39.2%	60.8%	100.0%
Pearson Chi-Square = 0.007; p = 0.933				

Table 7 (panel a) reveals that 57.7% of the sustainability reports from firms located in OECD and 65.1% in non-OECD countries were assured by accounting firms. Yet despite this difference, we found no significant association between country status and choice of assuror ($p > 0.10$). From a general perspective (panel b), choice of accountants as assurance providers was more frequently made among firms from OECD countries

(61.7%) than from non-OECD countries (58.9%), while the percentage of non-accountants was higher in non-OECD countries (41.1%) than in OECD countries (38.3%). However, provider type was not significantly associated with country status ($p > 0.10$).

Table 7

ASSOCIATION BETWEEN CHOICE OF PROVIDER AND COUNTRY STATUS

Panel a-Agri-food industry		Non-accountant	Accountant	Total
Non-OECD	Count	15	28	43
	% within Country Status	34.9%	65.1%	100.0%
OECD	Count	30	41	71
	% within Country Status	42.3%	57.7%	100.0%
Total	Count	45	69	114
	% within Country Status	39.5%	60.5%	100.0%
Pearson Chi-Square = 0.609; $p = 0.435$				
Panel b-Global scale		Non-accountant	Accountant	Total
Non-OECD	Count	296	424	720
	% within Country Status	41.1%	58.9%	100.0%
OECD	Count	562	905	1,467
	% within Country Status	38.3%	61.7%	100.0%
Total	Count	858	1,329	2,187
	% within Country Status	39.2%	60.8%	100.0%
Pearson Chi-Square = 1.590; $p = 0.207$				

As shown in Table 8 (panel a), most MNEs (71.4%) and large companies (59.4%) preferred accountants to assure their sustainability reports. However, SMEs mostly chose non-accountants (70%). Therefore, choice of assuror was significantly associated with size ($p < 0.10$). Specifically, MNEs and large companies were more likely to opt for accountants. Unlike the Agri-Food sector, we found no significant association between provider type and company size on the global scale ($p > 0.10$). In general, most firms preferred accountants to perform external assurance (panel b).

Table 8

ASSOCIATION BETWEEN CHOICE OF PROVIDER AND SIZE

Panel a-Agri-food industry		Non-accountant	Accountant	Total
SME	Count	7	3	10
	% within Size	70.0%	30.0%	100.0%
Large	Count	28	41	69
	% within Size	40.6%	59.4%	100.0%
MNE	Count	10	25	35
	% within Size	28.6%	71.4%	100.0%
Total	Count	45	69	114
	% within Size	39.5%	60.5%	100.0%
Pearson Chi-Square = 5.677; p = 0.059				
Panel b-Global scale		Non-accountant	Accountant	Total
SME	Count	83	103	186
	% within Size	44.6%	55.4%	100.0%
Large	Count	613	939	1,552
	% within Size	39.5%	60.5%	100.0%
MNE	Count	162	287	449
	% within Size	36.1%	63.9%	100.0%
Total	Count	858	1,329	2,187
	% within Size	39.2%	60.8%	100.0%
Pearson Chi-Square = 4.185; p = 0.123				

In view of the results presented in Table 9 (panel a), 61.8% of listed companies resorted to professional accountants compared to 58.7% of unlisted companies. However, we found no significant association between listing status and choice of assuror ($p > 0.10$). From a general perspective (panel b), the proportions were almost the same among listed and unlisted companies, which especially opted for accounting firms. Thus provider type was not significantly associated with listing status ($p > 0.10$).

Table 9

ASSOCIATION BETWEEN CHOICE OF PROVIDER AND LISTING STATUS

Panel a-Agri-food industry		Non-accountant	Accountant	Total
Unlisted	Count	19	27	46
	% within Listing status	41.3%	58.7%	100.0%
Listed	Count	26	42	68
	% within Listing status	38.2%	61.8%	100.0%
Total	Count	45	69	114
	% within Listing status	39.5%	60.5%	100.0%
Pearson Chi-Square = 0.108; p = 0.742				
Panel b-Global scale		Non-accountant	Accountant	Total
Unlisted	Count	316	487	803
	% within Listing status	39.4%	60.6%	100.0%
Listed	Count	542	842	1,384
	% within Listing status	39.2%	60.8%	100.0%
Total	Count	858	1329	2,187
	% within Listing status	39.2%	60.8%	100.0%
Pearson Chi-Square = 0.008; p = 0.930				

5. DISCUSSION AND CONCLUSIONS

This research has attempted to compare companies from the Agri-Food sector with other industries as to whether they adopt sustainability assurance and to study their choice of assurance provider. It also analysed whether these decisions were associated with the country status where the company was located, company size and listing status.

Most Agri-Food firms that disclosed a sustainability report between 2012 and 2013 were large and listed companies from OECD member countries, and 32.9% of them adopted assurance, a percentage that is lower than the general percentage on a global scale. Of these, most opted for an accountant to carry out assurance engagement.

With regards to adoption of assurance, we found that Agri-Food industry companies were less favourable than companies from other industries to

assure their sustainability reports. So despite their quest for sustainability (Bremmers et al., 2007), they did not show much need to enhance the credibility of the information provided, as noted by Simnett et al. (2009). Nevertheless, this may be especially due to the effect of agricultural firms since no significant difference was found between food and beverage industries and other industries.

However, we found that the country status where companies were located was not significantly associated with adoption of assurance. This goes against Kolk and Perego (2010) and Simnett et al. (2009), who found that the country-level factor affected the decision to assure. Unlike Sierra et al. (2013) and Simnett et al. (2009), we did not find a significant association between company size and decision to assure for Agri-Food firms. Regardless of size, they were less likely to assure their sustainability reports. However, our results revealed that listing status associated positively with external assurance, which coincides with Castelo et al. (2014).

As regards provider type, we found no significant association between being an Agri-food firm and choosing an assurance provider. Nevertheless, the findings indicated that agricultural firms tended to hire non-accountants as assurance providers, while food and beverage firms opted for accountants.

No significant associations were found between choice of assuror and country status, which goes against the findings posited in the existing literature, such as Simnett et al. (2009) or Perego (2009), who established that the country-level factor affected choice of assuror. Our results revealed that choice of assuror was associated with company size, which is in line with Simnett et al. (2009), who found a significant positive association between company size and choice of a member of the auditing profession as an assurance provider. In our study, most MNEs and large companies opted for accountants, while SMEs preferred non-accountants. We found no connection between assuror and listing status.

In short, Agri-Food firms form a particular group as regards assurance of sustainability reports, and are less likely to adopt assurance than companies from other industries. In general, firms from OECD countries are more likely to assure their reports and choose accountants as assurance

providers, while location in the Agri-food sector affects neither adoption of assurance nor choice of assuror. Agri-food company size does not influence the decision to adopt assurance, unlike general behaviour, with large companies being more likely to assure their sustainability reports. Yet contrarily to the general trend, size in this sector is associated with choice of assuror as most MNEs and large companies opt for accountants, and most SMEs prefer non-accountants. Agri-Food firms follow the general trend for listing status, which is not associated with choice of assurance provider, but affects adoption of assurance. Nonetheless, it should be pointed out that the **GRI Database** is continually evolving, therefore our results could fluctuate according to access date.

Since they influence and depend on environment and people, Agri-Food companies are highly exposed to environmental and social risks, thus their need to increase the credibility of the information that they provide and user confidence is considerable (Simnett et al., 2009). Therefore, they should get involved in sustainability reporting and adopt external assurance to improve their sustainability image.

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RESUMEN

Verificación de informes de sostenibilidad en la industria agroalimentaria

La verificación de sostenibilidad se ha incrementado durante la última década como consecuencia de la necesidad de obtener credibilidad. El objetivo de este trabajo es desarrollar un análisis exploratorio sobre la verificación de la sostenibilidad en la industria agroalimentaria. La falta de estudios previos que se centren en un sector específico supone un interesante hueco en este campo de investigación. Así, nuestro objetivo es identificar si tanto el hecho de adoptar verificación como la elección del tipo de proveedor están asociados a la industria agroalimentaria, al país donde la compañía está situada, al tamaño de la misma y a cotizar en algún índice bursátil. Los resultados indican que las compañías del sector son menos dadas a someter sus informes de sostenibilidad a un proceso de verificación. Por otro lado, encontramos una asociación positiva entre cotizar y adoptar verificación, y que el tamaño de la compañía está asociado significativamente con la elección del verificador.

PALABRAS CLAVE: Verificación, sostenibilidad, RSC, reporting, industria agroalimentaria.

CÓDIGOS JEL: M14, M42, Q13.

ABSTRACT

Assurance on sustainability reports in the agri-food industry

Sustainability assurance has increased in the last decade because of the need to gain credibility. The aim of this paper is to develop an exploratory analysis about sustainability assurance in the agri-food industry. Given the lack of previous studies that focus in a specific sector, we consider that this is an interesting research gap. Thus, we aim to identify whether adoption of assurance and choice of assuror are associated with the agri-food industry, the country status where the company is located, company size and listing status. Findings indicate that companies from the agri-food industry are less likely than companies from other industries to assure their sustainability reports. On the other hand, we found a positive association between listing status and adoption of assurance, and that company size is associated with choice of assuror.

KEY WORDS: Assurance, sustainability, CSR, reporting, agri-food industry.

JEL CODES: M14, M42, Q13.