



# Article Sustainability Assurance in Socially-Sensitive Sectors: A Worldwide Analysis of the Financial Services Industry

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Received: 16 July 2018; Accepted: 4 August 2018; Published: 6 August 2018



Abstract: Sustainability reporting and assurance have considerably increased in the last decades. Among different sectors, 'sensitive sectors' attracted the attention of many academics. However, most of research works were focused only on 'environmentally-sensitive sectors'. Therefore, after the loss of trust caused by the lack of transparency due to the crisis, 'socially-sensitive sectors' as financial services sector needs to strengthen users' confidence in the credibility of their reported activities. The aim of this paper is to assess assurance practices worldwide in one of the main 'socially-sensitive sectors': the financial services sector. We study what factors are associated with adoption of assurance and choice of assurance provider, and whether assurance statements differ across providers. Our results reveal that, compared to the global context, companies operating in the financial services sector are more likely to adopt assurance and to choose accountants as assurance providers. Our findings show that adoption of assurance depends on company size. We also found that companies using the financial services sector supplement are more prone to adopt assurance. Our results also evidence that choice of assurance provider depends on the country and listing status Finally, our research shows a great variability in assurance statements across providers.

Keywords: sustainability reporting; CSR reporting; assurance; financial services; socially-sensitive sectors

# 1. Introduction

Traditionally, the academic literature found significant sector-level differences in sustainability reporting and assurance, based on its 'sensitiveness'. In this way, researchers distinguish between 'sensitive sectors'; that is, those with high social or environmental impact, and 'non-sensitive sectors', without significant social or environmental impact (see, for example, [1–5]).

Among 'sensitive sectors', the major part of studies tackled aspects of so-called 'environmentallysensitive sectors' such as mineral extraction, oil and gas, energy, forestry, chemicals, construction materials, and steel. In fact, since 1978, we found dozens of articles about 'environmentally-sensitive sectors' (see, for example, [6–12]). Moreover, the pioneers issuing in the 1980s and early-90s Environmental Reports belonged to the petrochemical sector. However, although there are several studies about sustainability reporting in 'socially-sensitive sectors' (see, for example, [13–19]), to the best of our knowledge, there is no evidence about research works that analyse the sustainability assurance in this kind of sectors. In this regard, our study finds to shed light into a clear research gap in the field, focusing on the financial services sector. Compared to other sectors, the financial services sector has significantly lower direct environmental impact, which is used as an argument to exclude financial services companies in many studies. However, there are valid arguments for their inclusion [13].

The financial crisis has brought about dramatic consequences for the economy and society, and the financial sector has been accused of being responsible for it [17]. Previous studies have highlighted how the financial sector had a degree of responsibility at the economic-financial crisis in regulatory failure and over-optimistic policies terms [20]. Accordingly, the crisis brought with it vast social impact costs, not only for the financial system, but also for taxpayers and recipients of welfare subsidies [18]. The critical situation experienced by financial companies in this situation has caused discredit in and distrust of society. Consequently, sustainability is necessary to produce and maintain trust [19].

Companies in the financial services sector (including retail banking, commercial and corporate banking, asset management and insurance companies [21]) play the role of financial intermediaries in society pricing and valuing financial assets, monitoring borrowers, managing financial risks, organising the payment system and covering for the financial consequences of situations that people try to avoid. These companies strongly influence society by performing their activities [15,16].

The financial services sector is a 'socially-sensitive sector' because of its influence on financial well-being and its large 'social footprint'. Consequently, stakeholders are deeply interested in its activities [4]. According to Day and Woodward [14], it is an interesting sector in the sustainability reporting context because of its size and the role it plays in easing economic dealings for both companies and individuals. Therefore, in line with Sierra et al. [5], it is considered a 'sensitive sector' with regards to sustainability.

By means of sustainability reporting, companies reveal the social and environmental consequences of their activities to stakeholders within society and to society at large [22]. It is understood as a way of guaranteeing the legitimacy of organisations, an instrument to handle relationships with stakeholders, or a system to create good impressions and/or to hide conflicts [23]. According to ACCA [24], it is the main approach for many companies to show their corporate legitimacy to their stakeholders.

In view of accountability pressures and a greater transparency of corporate behaviour, sustainability reporting has increased in response to environmental and social's concerns, governance issues and responsibility problems [25,26]. Among other factors, risk and reputation management, external pressure, moral reasons, and support of better investor relations and corporate performance have been determining factors of sustainability reporting [23].

The most used standard to prepare sustainability reports is the *GRI Sustainability Reporting Guidelines* (Global Reporting Initiative—GRI). According to KPMG [27], 74% of the Global 250 companies (G250: the top 250 companies of the Fortune 500 Index) and 72% of the National 100 companies (N100: the top 100 companies in 45 countries where KPMG works) follow the GRI guidelines.

Despite the increased of sustainability reporting, researchers have criticised a lack of accountability and transparency [28–31]. This practice is topic to concerns with regards to the completeness and credibility of the information [28,29]. In this sense, sustainability reports have been harshly criticised for being poor in quality [32], mainly because they do not always provide complete data, which in turn intensifies the problem with the assessment [33]. According to Owen et al. [28], companies just disclose positive information to get corporate advantage and a better reputation, instead of looking for accountability for stakeholders. On the word of Michelon et al. [34], companies that use sustainability reporting do not provide a higher quality of information, which evidences a symbolic use of these practices. Moreover, scepticism and mistrust toward companies often prevails among both stakeholders and scholars [35]. This situation has created a need for credible reported information, known as the so-called 'credibility gap'.

As a result, some organisations submit their sustainability reports to an external assurance process that is performed by independent experts. According to Adams and Evans [30], the credibility of the information contained in these reports increases through voluntary assurance. Moroney et al. [36]

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affirmed that assurance is positively associated with the quality of reports. In accordance with Simnet [26], providing external assurance on the content and structure of sustainability reports enhances their importance, reliability, and comparability, and therefore, their global credibility. Moreover, it generates confidence in stakeholders with regards to the quality of the provided information and commitment to sustainability plans. So, companies that wish to enhance the credibility of their reports and to build their corporate reputation are more likely to adopt assurance [4]. KPMG [27] highlighted that 63% of G250 companies and 42% of N100 firms use assurance as a way to validate and to evaluate their sustainability reporting.

As stated by GRI [37], the outcome of the assurance process is an assurance report or statement where form and content differs depending on the assurance provider, the assurance scope, and the assurance standards. The assurance provider is an independent expert that is engaged to provide assurance services. The main types of providers are accountants and non-accountants (including engineering firms, and sustainability services firms). The scope relates to the extent of subject matter or information included in a sustainability report and covered by the assurance process. The two most commonly used international standards are the AA1000 Assurance Standard (AA1000AS) (AccountAbility) and the International Standard of Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (ISAE 3000) (IAASB). AA1000AS provides the requirements for conducting sustainability assurance [38], while ISAE 3000 provides the principles and procedures for accounting firms to follow, when reviewing non-financial information [39,40]. Neither standard is conflicting nor a substitute, but both are complementary in terms of providing complete and strong external assurance [41].

In this line, the purpose of this paper is to analyse assurance practices in the financial services sector. First, we compare trends in this 'socially-sensitive sector' with the general trends. We analyse what factors influence financial services companies to adopt assurance, and choose an assurance provider. Moreover, we check whether assurance statements differ across providers. The paper proceeds as follows. First, we present the theoretical approach and a literature review. In the following section, we describe the sample and the methodology employed. Later, we expose our results. Finally, we discuss the results of the study and present our conclusions.

#### 2. Literature Review and Development of Research Questions

#### 2.1. Theoretical Approach

The research of sustainability practices has produced a wide range of literature that engages different theoretical approaches [3]. According to Smith et al. [42], a framework for investigating sustainability assurance should use a systems-oriented theory to position this practice into a social context. Systems-oriented theories offer a powerful lens [22] as it allows the introduction of broader societal influences in analysing the way that companies operate, and the information that they reveal [43]. The most widely used systems-oriented theories are institutional, legitimacy, and stakeholder theories [44,45].

Institutional theory tries to explain how institutions adopt similar practices or structures to conform to external expectations and gain legitimacy and support [46,47]. Institutional change takes place along three mechanisms: mimetic, coercive, and normative isomorphism. These three mechanisms push companies to be more transparent, and socially and environmentally responsible [48]. Mimetic isomorphism describes the process by which organisations emulate the structures and procedures adopted by other organisations [47]. In this regard, Martínez-Ferrero and García-Sánchez [49] showed that the adoption of assurance responds to mimetic pressures, since the sector where companies perform their activities act as an influential factor, and it is assumed that competition may cause companies of one sector to adopt the strategies and practices of those that are perceived as more successful [48,49]. Moreover, sensitivity to external demands and high political costs would led companies to emulate sector norms as a legitimation strategy [48]. Similarly, Amran

and Haniffa [48] suggested that sustainability practices could be explained by mimetic isomorphism, given that company size act as an influential factor, and large companies could provide leadership in sustainability practices, or mimic their competitors, since their activities are relevant to different stakeholders. Coercive isomorphism describes how external factors (e.g., government policy, regulation or commercial pressures) exert power on organisations to adopt specific internal structures and procedures [47]. In this respect, Martínez-Ferrero and García-Sánchez [49] showed that adoption of assurance responds to coercive pressures, since the legal systems act as an influential factor. Specifically, civil law countries are more likely to adopt assurance [49], since they are more oriented toward stakeholders [50] and, society understand a wide range of stakeholders as possessing a legitimate interest in corporate activities [51]. Normative isomorphism is the process by which organisations adopt the structures and procedures advanced by dominant professions, professional bodies, and/or consultants [47]. Accordingly, Martínez-Ferrero and García-Sánchez [49] showed that the adoption of assurance is positively associated with normative pressures based on the cultural development of countries where companies operate. That is, that companies show a greater likelihood of assuring sustainability reports and have a greater sustainability commitment in societies more culturally developed. According to Scott [52,53], cultural systems could be considered as normative forces, since they introduce a prescriptive, evaluative and obligatory dimension to social life. In this respect, García-Sánchez et al. [51] argued that the cultural affinity of sustainability determines stakeholders' expectations for companies, generating a propensity in firms to adopt sustainable behaviour and improve their transparency to obtain social legitimacy. On the other hand, this kind of isomorphism is consistent with the 'standardisation' of assurance [54] through, for instance, the increase of adoption of standards [42], like the ISAE 3000 and the AA1000AS.

The idea of legitimacy theory is that businesses are bound by a social contract in which the companies agree to perform some socially desired actions in return for approval of their goals and other rewards, and this ultimately guarantees their survival [46]. That is, companies will behave in such a way that society will recognise them as socially responsible [55]. The assurance process generally has an important role in establishing legitimacy [56], and it is considered to be a necessary tool for satisfying the social demands that ensure the survival of the firm [49]. In line with this theory, it is assumed that companies with high social and/or environmental impacts are more visible to the public, and consequently they have a greater need to demonstrate that they are socially responsible and to legitimise their role in society [46]. Equally, large companies have a higher political visibility, so they are expected to engage more heavily in legitimating behaviour [57]. In the same way, publicly listed companies can be more actively engaged in sustainability practices in order to obey to certain regulations, adopt good practice by competitors, and/or to accomplish with stakeholder pressure [57].

The stakeholder theory recognises companies as a part of a wider social system in which their commercial activities affect, and are affected by, other stakeholders within society [46,58]. Managers have to recognize the changes in the environment among internal and external stakeholders [58]. It is presumed that a large numbers of stakeholders directly increase the need for companies to explain their business behaviour [44]. Accordingly, it is expected that stakeholder pressure influences the decision to adopt assurance [45,49] and the selection of assurance provider [45], since firms operating in different sectors should focus on certain stakeholders more than they should focus on others [59] and respond to sector-specific stakeholder pressure [60].

According to [1] and Fernández-Feijóo et al. 2015 [45], the legitimacy theory can be used to explain differences related to company characteristics. However, the reasons for differences across countries are more complex [1], and could be explained by institutional theory [45]. Thus, in line with Reverte [3], Hahn and Kühnen 2013 [44], Fernández-Feijóo et al. 2015 [45], we used these three different theories to explain differences in sustainability assurance practices in the financial services sector.

#### 2.2. Sustainability Assurance

Empirical research on sustainability assurance has quickly increased with regard to enhanced stakeholder information awareness [61]. Hummel et al. [62] established three primary areas of interest.

The first area comprises studies which focus on factors, mostly at the sector-, country-, and company-level, which influence the decision to adopt assurance [62]. With regard to the sector, Zorio et al. [63] and Castelo Branco et al. [64] pointed it out as a determinant factor for adopting assurance. Simnett et al. [4] found that firms that engage in more highly visible industrial activity and those with a larger 'social footprint', such as the financial sector, were more likely to assure their sustainability reports. Cho et al. [65] evidenced that those from the financial sector or 'environmentally-sensitive sectors' were more likely to seek external assurance. Fernández-Feijoó-Souto et al. [45] showed that the probability of adopting assurance was higher for companies belonging to sectors with greater visibility, such as financial services. Sierra et al. [5] revealed that companies from 'sensitive sectors' (such as oil and energy, or financial services) were more likely to adopt assurance. Martínez-Ferrero and García-Sánchez [49] highlighted that companies operating in sectors greatly concerned about sustainability were more likely to adopt assurance. Regarding country, Simnet et al. [4] and Kolk and Perego [25] found that companies located in stakeholder-oriented countries were more likely to assure their sustainability reports than companies located in shareholder-oriented countries. On the other hand, Fernández-Feijoó-Souto et al. [45] did not find that the legal system of a country significantly affected the decision to adopt assurance. However, they found that companies in the EU were more likely to adopt assurance than companies in non-EU countries. Factors considered at the company-level are listing status and company size. Focusing on the listing status, Zorio et al. [63] pointed out that listed companies were more likely to adopt assurance. In contrast, Castelo Branco et al. [64] indicated that listed companies were less likely to assure their sustainability reports. In relation to the company size, several authors found that larger companies were more likely to adopt assurance (see, for example, [4,5,45,63,64,66]). On the contrary, Cho et al. [65] did not find that size was associated with adoption of assurance. In addition to these factors, we considered the use of the sector supplement. GRI provides Sector Supplements [67,68] or Sector Disclosures [69] that cover the needs of specific sectors complementing guidelines with interpretations and guidance, and sector-specific performance indicators. Sector supplements or disclosures are available for the following sectors: airport operators, construction, and real estate, electric utilities, event organisers, financial services, food processing, media, mining, and metals, NGO, oil and gas. Thus, companies using the supplement disclose more information about their sustainability performance, so we expect that they are more prone to adopt assurance. Based on the literature, we formulated the following research questions:

RQ1: Is the adoption of assurance associated with the sector where a company performs its activity, and especially with the financial services sector?

RQ2: Focusing on the financial services sector, is the adoption of assurance associated with the country where a company is located, the listing status, company size and the use of the sector supplement?

Similar to the adoption of assurance, other researchers analysed factors for the choice of assurance providers (generally, classified in accounting and non-accounting providers). At the sector-level, Zorio et al. [63] highlighted it as a determinant of choice of assurance provider. Fernández-Feijoó-Souto et al. [45] found that the likelihood of choosing big accounting providers was higher for companies from more visible sectors. Sierra et al. [66] found that sectors, such as oil and energy, basic materials or financial services, significantly tended to choose accounting firms as assurance providers. At country-level, Simnet et al. [4] found that companies from stakeholder-oriented countries were more likely to choose large accounting firms as assurance providers. However, Kolk and Perego [25] revealed that the likelihood of choosing large accounting firms increased for companies located in shareholder-oriented countries. On the other hand, Fernández-Feijóo-Souto et al. [45] did not find

that the choice of assuror was significantly associated with the legal system of a country. At the company-level, Simnet et al. [4], Kolk and Perego [25], and Fernández-Feijoó-Souto et al. [45] highlighted that large companies were more likely to choose accounting providers. Conversely, Zorio et al. [63] found no association between company size and choice of assuror. However, they evidenced that to be listed was clearly significant for choosing an assurance provider. In addition to these factors, we also considered the use of the sector supplement. Accordingly, we formulated the next research questions:

RQ3: Is choice of assurance provider associated with the sector where a company performs its activity, and especially with the financial services sector?

RQ4: Focusing on the financial services sector, is the choice of assurance provider associated with the country where a company is located, listing status, company size, and the use of the sector supplement?

The second and third areas of research in sustainability assurance include studies that analyse assurance statements, and the associations between their content and assurance providers, respectively [62]. In this way, O'Dwyer and Owen [70] found that all statements made reference to the assurance scope, a small percentage indicated the assurance standard, and less than half specified the level of assurance. They noted that non-accountants were more likely to mention standards, and this led the use of the AA1000AS. On the other hand, accountants were more likely to indicate the level of assurance and applied a more conservative, cautious, and limited approach to provide low levels, while non-accountants applied a more evaluative approach and provided higher levels. Hasan et al. [71] evidenced that many of the accounting firms applied a limited/moderate level of assurance rather than a reasonable/high level. Deegan et al. [72,73] found considerable variability in presentation formats and contents across assurance providers; for example, they pointed out that accounting providers were more likely to mention assurance standards. Mock et al. [74,75] revealed that big accounting firms were more likely to specify the standard used, employ international standards (such as the ISAE 3000), and provide lower levels of assurance. Manetti and Becatti [76] evidenced that the most widely used standard was the ISAE 3000, followed by a combination of the ISAE 3000 and the AA1000AS, and most assurors applied a limited/moderate level of assurance. Manetti and Toccafondi [77] found that almost all statements specified the standards used. The most frequent adoption was a combination of two standards, followed by the use of the ISAE 3000, the AA1000AS, and other national or international standards. Only accountants used ISAE 3000 and were more likely to combine standards (mainly the combination of ISAE 3000 and AA1000AS), while consultants showed a preference for AA1000AS or other national or international standards. Their results indicated that most providers mentioned the level of assurance, and most applied a limited/moderate level. Perego and Kolk [78] pointed out that most of assurance providers combined the AA1000AS, the ISAE 3000 and GRI guidelines. They revealed that accountants employed mainly the ISAE 3000, while non-accountants tended to use the AA1000AS. Ferreira et al. [79] studied assurance among Portuguese companies and revealed that the dominant standard used was ISAE 3000. Following the literature, our research question stated as follows:

RQ5: Is the type of assurance provider associated with the content of assurance statements?

Despite the large number of research works about sustainability assurance, we did not find previous studies that paid attention to the financial services sector. Only a small number of authors analysed assurance in a particular 'environmentally-sensitive sector'. Specifically, Bollas-Araya et al. [12] studied assurance practices in the agri-food sector, and factors associated with adoption of assurance and choice of assuror. They found that, despite its environmental sensitivity, agri-food companies were less likely to assure their reports than companies from other sectors. Their results revealed a positive association between the listing status and the adoption of assurance, and between the company size and the choice of assuror. Focusing on large mining companies, Fonseca [11] evaluated the content of their assurance statements and showed that all of them specified the assurance scope, most made reference to standards employed (mainly, the ISAE 3000), and half of them mentioned the level of assurance (mostly, a reasonable level or a combination of both levels). In this way, our study focused on the financial services sector, not only because of its special link to sustainability and its high social impact, but also because we consider that it is an interesting research gap. Our study explores the differences in sustainability assurance between this 'socially-sensitive sector' and the general behaviour. We analyse what factors are associated with adoption of assurance and choice of assurance provider, and whether assurance statements differ according to the type of provider.

#### 3. Research Design

#### 3.1. Data Collection and Sample Description

In order to investigate sustainability assurance in the financial services sector, we had recourse to the GRI's Sustainability Disclosure Database. We looked for companies worldwide that disclosed a sustainability report between 2012 and 2015, and we selected those companies whose reports followed guidelines G3, G3.1, or G4, excluding 'no-GRI' and 'GRI-referenced' reports. Afterwards, we checked whether sustainability reports were submitted to an assurance process.

As shown in Table 1, the first sample is composed of 12,225 sustainability reports. The data indicate that the highest percentage of reports comes from the financial services sector (representing 13.3% of total), followed by the energy (7.45%), food and beverage products (5.5%), energy utilities (4.8%), and mining (4.3%) sectors. The second sample is composed of 5128 assurance statements. In this case, the highest percentage of statements also comes from financial services companies (15.3%), followed by energetic companies (9.1%).

	Sample 1: Sustai	inability Reports	Sample 2: Assu	rance Statements
Sector	n	%	n	%
Agriculture	156	1.3	35	0.7
Automotive	283	2.3	110	2.1
Aviation	234	1.9	109	2.1
Chemicals	436	3.6	178	3.5
Commercial Services	274	2.2	108	2.1
Computers	131	1.1	58	1.1
Conglomerates	300	2.5	152	3.0
Construction	377	3.1	167	3.3
Construction Materials	299	2.4	140	2.7
Consumer Durables	111	0.9	44	0.9
Energy	910	7.4	468	9.1
Energy Utilities	584	4.8	293	5.7
Equipment	213	1.7	62	1.2
Financial Services	1629	13.3	785	15.3
Food and Beverage Products	672	5.5	250	4.9
Forest and Paper Products	189	1.5	87	1.7
Healthcare Products	255	2.1	97	1.9
Healthcare Services	191	1.6	59	1.2
Household and Personal Products	139	1.1	58	1.1
Logistics	282	2.3	109	2.1
Media	135	1.1	44	0.9
Metals Products	257	2.1	114	2.2
Mining	529	4.3	244	4.8
Non-Profit/Services	303	2.5	81	1.6
Other	966	7.9	317	6.2
Public Agency	207	1.7	73	1.4
Railroad	71	0.6	43	0.8
Real Estate	380	3.1	149	2.9
Retailers	235	1.9	72	1.4

#### Table 1. Sample description.

	Sample 1: Sustai	nability Reports	Sample 2: Assurance Statement	
Technology Hardware	350	2.9	140	2.7
Telecommunications	441	3.6	236	4.6
Textiles and Apparel	141	1.2	42	0.8
Tobacco	24	0.2	11	0.2
Tourism/Leisure	185	1.5	65	1.3
Toys	4	0.0	1	0.0
Universities	82	0.7	13	0.3
Waste Management	113	0.9	53	1.0
Water Utilities	137	1.1	61	1.2
Total	12,225	100.0	5128	100.0

Table 1. Cont.

#### 3.2. *Methodology*

As mentioned before, the aim of this paper was to characterise sustainability assurance in the financial services sector. We tried to determine factors associated with the decision to adopt assurance, and we chose an assurance provider in the financial services sector, and we analysed differences of assurance statements across assurance providers. In this line, and based on the previous literature, we defined the next variables:

- ASSURANCE indicates whether a sustainability report is assured. Thus, the variable takes a value of '0' if the report is not assured, and '1' if it is assured.
- PROVIDER identifies the type of firm that provides assurance. Thus, the variable takes a value of '0' if the assurance provider is a non-accountant (including engineering firms and sustainability services firms), and '1' if it is an accountant.
- SECTOR refers to the sector where a company performs its activity. According to the number of sectors included in the GRI Database, this variable takes the values from '0' to '38'.
- COUNTRY. In view of the diversity, we classified countries according to their legal system. As stated by Ball et al. [50], companies domiciled in common law countries follow a more shareholder-oriented corporate governance model, while companies domiciled in civil law countries follow a more stakeholder-oriented model. Accordingly, this variable takes the value of '0' if the company is located in a common law country (shareholder-oriented), a value of '1' if it is located in a civil law country (stakeholder-oriented), and a value of '2' otherwise (i.e., if the company is located in a country where the legal system is based on the religious law, the customary law, or a mixed system).
- SIZE follows the EU definitions of organisation size. In this way, the variable takes a value of '0' if the company is a Small and Medium Enterprise (SME—fewer than 250 employees, with a turnover below 50 million € or with assets below 43 million €), a value of '1' if it is a large enterprise (more than 250 employees and more than 50 million € in turnover or 43 million € in assets), and a value of '2' if it is a Multinational Enterprise (MNE—large and multinational).
- LISTING STATUS indicates whether a company is listed in a stock exchange. So, the variable takes a value of '0' if the company is unlisted, and '1' if it is listed.
- SECTOR SUPPLEMENT indicates whether a company use the financial services sector supplement to prepare its sustainability report. Accordingly, this variable takes a value of '0' if the company does not use the supplement, and '1' if it does.
- STANDARD represents the application of assurance standards. It takes a value of '0' when no standard is used or mentioned, '1' when the AA1000AS is applied, '2' when the ISAE 3000 is applied, and '3' when two standards are combined.
- SCOPE defines the information that the assurance process covers [37]. It takes a value of '0' when the assurance statement does not specify the scope, '1' when the assurance process covers specified sections or greenhouse gas only, and '2' when the process covers the entire sustainability report.

• LEVEL indicates the extent and depth of the work the assurance provider undertakes, and therefore the degree of confidence report users should be able to have in the assured report [37]. It takes a value of '0' when the assurance statement does not specify the level, '1' when the level is limited/moderate, '2' when it is reasonable/high, and '3' when there is a combination of both levels.

In order to determine whether adoption of assurance and choice of assurance provider were associated with a sector where the company operates, and especially with the financial services sector, we employed a cross-tabulation analysis and the Pearson Chi-square test. With the aim of studying whether the factors of country, company size, listing status, and the use of the sector supplement influenced the adoption of assurance and choice of the assurance provider, we first applied a cross-tabulation analysis and the Pearson Chi-square test. Moreover, we formulated the next regression logistic models.

ASSURANCE = F (COUNTRY, SIZE, LISTING STATUS, SECTOR SUPPLEMENT)

#### PROVIDER = F (COUNTRY, SIZE, LISTING STATUS, SECTOR SUPPLEMENT)

Finally, we used again a cross-tabulation analysis and the Pearson Chi-square tests to check whether assurance standards, scope and level of assurance were significantly associated with the assurance provider.

### 4. Results

Regarding the adoption of assurance at sector-level (Table 2), we found that 48.2% of reports published by financial services companies underwent external assurance in comparison to 41.9% on a global scale. The railroad sector achieves the highest proportion of assurance statements (60.6%), followed by the telecommunication (53.5%), energy (51.4%), conglomerates (50.7%), and energy utilities (50.2%) sectors. The other sectors do not overcome 50% of assurance statements per sustainability reports. The Pearson Chi-square test shows a significant association between the sector and adoption of assurance (p < 0.01). In this way, we could positively answer our first research question. The decision to adopt assurance was associated with the sector where companies performed their activities. Specifically, the financial services sector was over the general trend, being more likely to adopt assurance than companies from other sectors. This result was consistent with previous empirical evidence that affirmed that companies from sensitive sectors were more likely to adopt assurance [4,5,45,63–65] and can be explained by the institutional theory taking into account the higher social and regulatory pressures.

Focusing on the financial services sector, the results of the bivariate analysis (Table 3) showed that, according to the Pearson Chi-square test, there was no significant association between the country and adoption of assurance (p > 0.10), but there is a significant association between the listing status and the adoption of assurance (p < 0.01), with listed companies being more favourable to assure their sustainability reports. Size does not present a significant association with the adoption of assurance (p > 0.10). Finally, the use of the sector supplement was significantly associated with adoption of assurance (p < 0.01), with companies using this supplement being more likely to assure their sustainability reports.

Results of multivariate analysis (Table 4) showed that our logistic regression model was significant (p < 0.001). The Nagelkerke R-square indicated that it explained 7.12% of variability, revealing a moderate relationship between the dependent and independent variables. Nevertheless, the Hosmer and Lemeshow test was not significant (p > 0.10), which meant that there was no statistical difference between estimated values and real values, confirming the goodness of fit of our model. The model correctly classified 59.91% of overall cases, presenting a specificity of 69.08% and a sensitivity of 50.06%. The area under the Receiver Operating Characteristic (ROC) curve (0.6264 < 0.7) indicates a discrimination that was close to acceptable. The intercept term was weakly significant (p < 0.10) and negative, meaning that the probability of assuring sustainability reports of firms that are unlisted

and located in shareholder-oriented countries which do not use sector supplement is 56% of the probability not to assure. We found a significant association between adoption of assurance and size (p < 0.05), with large companies and MNEs being less likely to assure their sustainability reports than SMEs. This finding differs from the general behaviour, which reflects that the likelihood that adopting assurance is higher for large companies [4,5,45,63,64,66]. We also found that adoption of assurance is significantly associated with the use of the sector supplement (p < 0.05), with companies using the financial services supplement more likely to adopt assurance. Opposite to Simnett et al. [4] and Kolk and Perego [25], but in line with Fernández-Feijoó-Souto et al. [45], we did not find that country have a significant effect on assurance (p > 0.10), although the interaction between country (otherwise) and supplement (yes) is weakly significant (p = 0.056 < 0.10) and negative, this means that the positive effect of the use of supplement is smaller in countries where the legal system is based on the religious law, the customary law, or a mixed system. We neither found that listing status influenced the decision to assure sustainability reports (p > 0.10), which disagrees Zorio et al. [63] and Castelo-Branco et al. [64]. On the other hand, the interaction between the listed and MNE is weakly significant (p < 0.10) and positive, which means that listed and multinational firms have more probability of assuring their sustainability reports compared to the base category (unlisted and SME).

Assurance	Not As	sured	Ass	ured	То	tal	Chi-S	quare
Sector	n	%	n	%	n	%	Value	<i>p</i> -Value
Agriculture	121	77.6	35	22.4	156	100.0		
Automotive	173	61.1	110	38.9	283	100.0		
Aviation	125	53.4	109	46.6	234	100.0		
Chemicals	258	59.2	178	40.8	436	100.0		
Commercial Services	166	60.6	108	39.4	274	100.0		
Computers	73	55.7	58	44.3	131	100.0		
Conglomerates	148	49.3	152	50.7	300	100.0		
Construction	210	55.7	167	44.3	377	100.0		
Construction Materials	159	53.2	140	46.8	299	100.0		
Consumer Durables	67	60.4	44	39.6	111	100.0		
Energy	442	48.6	468	51.4	910	100.0		
Energy Utilities	291	49.8	293	50.2	584	100.0		
Equipment	151	70.9	62	29.1	213	100.0		
Financial services	844	51.8	785	48.2	1629	100.0		
Food and Beverage Products	422	62.8	250	37.2	672	100.0		
Forest and Paper Products	102	54.0	87	46.0	189	100.0		
Healthcare Products	158	62.0	97	38.0	255	100.0		
Healthcare Services	132	69.1	59	30.9	191	100.0		
Household and Personal Products	81	58.3	58	41.7	139	100.0		
Logistics	173	61.3	109	38.7	282	100.0	312.897	0.000 *
Media	91	67.4	44	32.6	135	100.0		
Metals Products	143	55.6	114	44.4	257	100.0		
Mining	285	53.9	244	46.1	529	100.0		
Non-Profit/Services	222	73.3	81	26.7	303	100.0		
Other	649	67.2	317	32.8	966	100.0		
Public Agency	134	64.7	73	35.3	207	100.0		
Railroad	28	39.4	43	60.6	71	100.0		
Real Estate	231	60.8	149	39.2	380	100.0		
Retailers	163	69.4	72	30.6	235	100.0		
Technology Hardware	210	60.0	140	40.0	350	100.0		
Telecommunications	205	46.5	236	53.5	441	100.0		
Textiles and Apparel	99	70.2	42	29.8	141	100.0		
Tobacco	13	54.2	11	45.8	24	100.0		
Tourism/Leisure	120	64.9	65	35.1	185	100.0		
Toys	3	75.0	1	25.0	4	100.0		
Universities	69	84.1	13	15.9	82	100.0		
Waste Management	60	53.1	53	46.9	113	100.0		
Water Utilities	76	55.5	61	44.5	137	100.0		
Total	7097	58.1	5128	41.9	12,225	100.0		

Table 2. Adoption of assurance at the sector level.

\* p < 0.01.

Assurance	Not A	ssured	Ass	ured	То	tal	Chi-S	Square
Country	n	%	n	%	n	%	Value	<i>p</i> -Value
Shareholder-oriented	128	53.3	112	45.7	240	100.0		
Stakeholder-oriented	575	51.0	552	49.0	1127	100.0	0.007	0.600
Otherwise	141	53.8	121	46.2	262	100.0	0.927	0.629
Total	844	51.8	785	48.2	1629	100.0		
Listing Status	n	%	n	%	n	%	Value	<i>p</i> -Value
Non-listed	358	60.0	239	40.0	597	100.0		
Listed	486	47.1	546	52.9	1032	100.0	25.105	0.000 *
Total	844	51.8	785	48.2	1629	100.0		
Size	n	%	n	%	n	%	Value	<i>p</i> -Value
SME	56	45.9	66	54.1	122	100.0		
Large	631	52.0	583	48.0	1214	100.0	2 000	0.252
MNE	157	53.6	136	46.4	293	100.0	2.088	0.352
Total	844	51.8	785	48.2	1629	100.0		
Sector Supplement	n	%	n	%	n	%	Value	<i>p</i> -Value
Otherwise	311	64.3	173	35.7	484	100.0		
Financial services	533	46.6	612	53.4	1145	100.0	42.717	0.000 *
Total	844	51.8	785	48.2	1629	100.0		

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\* p < 0.01.

Table 4. Multivariate analysis about adoption of assurance in the financial services sector.

	В	S.E.	z	Sig.	Exp(B)	
Constant	-0.57357	0.33435	-1.715	0.086254 ***	0.56351011	
Country (stakeholder)	0.11062	0.27965	0.396	0.692418	1.11697038	
Country (otherwise)	0.34579	0.31800	1.087	0.276867	1.41310583	
Listing status (listed)	0.3744	0.41416	0.904	0.365987	1.45411868	
Size (large)	-0.51496	0.24317	-2.118	0.034200 **	0.5975245	
Size (MNE)	-1.27811	0.36499	-3.502	0.000462 *	0.27856329	
Supplement (yes)	0.91816	0.30111	3.049	0.002294 *	2.50467754	
Country (stakeholder) * Supplement (yes)	-0.07536	0.33459	-0.225	0.821796	0.92740956	
Country (otherwise) * Supplement (yes)	-0.74161	0.38934	-1.905	0.056808 ***	0.47634638	
Listing status (listed) * Size (large)	0.15258	0.43160	0.354	0.723703	1.16483565	
Listing status (listed) * Size (MNE)	0.92457	0.52473	1.762	0.078070 ***	2.52078409	
C1: 00.004 1 F.0(1F.) 10=15 *	0.001					

Chisq = 89.394 p-value =  $7.0615 \times 10^{-15} * < 0.001$ Nagelkerke R-square = 0.0712288Hosmer and Lemeshow: Chi-square = 0.85639; p = 0.9733Area under the curve (ROC): 0.6264Overall percentage = 59.91%Specificity = 69.08%Sensitivity = 50.06%

\* p < 0.01; \*\* p < 0.05; \*\*\* p < 0.10.

In order to interpret better the results and to assess the importance of each variable, we performed univariate logistic regressions and we calculated the decrease in residual deviance from the null model (a model with only intercept). Table 5 shows that the variable supplement is the most important in order to reduce residual deviance not explained by the model, the second one is listing status, and the third one is size. These data are in line with the bivariate analysis, but in contrast to the multivariate model (Table 4) where listing status result was no significant. The explanation for this is that the listing status and size present significant interactions, thus the individual contribution to the explained deviance is confounded. In order to assess the joint residual contribution of size and listing status, we computed the model 6 (Assurance =  $\alpha + \beta_1$  listing status +  $\beta_2$  size +  $\beta_3$  size \* listing status), and calculated the decrease in residual deviance from the null model, resulting in 38.4.

Model	<b>Residual Deviance</b>	Decrease in Residual Deviance
Model 1: Assurance = $\alpha$ (null model)	2256.1	
Model 2: Assurance = $\alpha + \beta_1$ supplement	2212.9	43.2
Model 3: Assurance = $\alpha + \beta_1$ listing status	2230.9	25.2
Model 4: Assurance = $\alpha + \beta_1$ size	2254	2.1
Model 5: Assurance = $\alpha + \beta_1$ country	2254.4	1.7

Table 5. Residual deviance in univariate models (adoption of assurance).

In summary, regarding our second research question, we can affirm that adoption of assurance is positively associated with use of sector supplement, and negatively associated with size. We also found a positive association between listed MNEs and assurance. Finally, sector supplement has a smaller positive effect in countries where the legal system is based on the religious law, the customary law, or a mixed system. Therefore, the bulk of the effects are explained by variables derived from the legitimacy theory, but the sign of association of size is the contrary to the expected according to legitimacy theory.

With reference to choice of assurance providers at sector-level (Table 6), the percentage of reports assured by accountants reaches 71% in the financial services sector, compared to 60.7% on a global scale. On the other hand, the percentage of reports assured by non-accountants reaches 29% in the financial services sector, in comparison to 39.3% on a global scale. For a total of 38 sectors, companies from 28 sectors prefer accountants to assure their sustainability reports, while companies from the other 10 sectors opt by non-accountants as assurance providers. The Pearson Chi-square test showed a significant association between sector and choice of assurance provider (p < 0.01). In view of the results, we could answer our third research question by affirming that the choice of assurance provider was associated with the sector where companies perform their activities. Similarly, to Fernández-Feijoó-Souto et al. [45], Zorio et al. [63] and Sierra et al. [66], we found that firms belonging to the financial services sector are more likely to choose accountants as assurance providers.

Focusing on the financial services sector, results of bivariate analysis (Table 7) show that, according to the Pearson Chi-square test, country is significantly associated with choice of assurance provider (p < 0.01), where stakeholder-oriented countries present the highest likelihood of choosing accountants. There was a significant association between listing status and choice of assurance provider (p < 0.01). Specifically, the probability of hiring accountants is greater for non-listed companies, comparing to listed companies. Neither size nor the use of sector supplement present a significant association with the choice of assurance provider (p > 0.10).

Results of multivariate analysis (Table 8) show that our logistic regression model is significant (p < 0.001). The Nagelkerke R-square indicates that our model explains 14% of variability, revealing a moderate relationship between the dependent and independent variables. Nevertheless, the Hosmer and Lemeshow test is not significant (p > 0.10), which means that there is no statistical difference between estimated values and real values, confirming the goodness of fit of our model. The model correctly classifies 73.25% of overall cases, presenting a specificity of 9.65% and a sensitivity of 99.28%. The area under the ROC curve (0.6255 < 0.7) indicated a discrimination close to acceptable. We found a significant association between choice of assurance provider and country (p < 0.05), with companies domiciled in stakeholder-oriented countries being more likely to choose accountants than companies located in shareholder-oriented countries. This finding agrees with Simnett et al. [4], but goes against Kolk and Perego [25]. In line with Zorio et al. [63], but unlike Bollas-Araya et al. [12], we also found that choice of assurance provider was significantly associated with listing status (p < 0.01) with non-listed companies more likely to hire accountants than listed companies. On the other hand, we did not find an association with the use of the sector supplement. We did not found that size, as main factor, influences the choice of assurance provider (p > 0.10), which differs with Simnett et al. [4], Kolk and Perego [25], Fernández-Feijoó-Souto et al. [45], and Bollas-Araya et al. [12]. However, we found a strongly significant (p < 0.01) and positive (6.04) interaction between large firms and listed firms; due the positive interaction, the 'effect size' was lower when comparing the main effects, but it was still

negative ( $\beta = -6.07 - 0.44 + 6.04 = -0.47$ ); therefore, listed and large firms are less prone to choose accountants as assurors, compared to the base category (unlisted firm and SME). We also found a weakly significant (p < 0.10) and negative interaction between the stakeholder-oriented country and MNE, meaning a final positive and strong effect ( $\beta = 2.97 + 16.66 - 2.45 = 16.17$ ) compared to the base category (shareholder-oriented country and SME).

Assurance	Non-Ac	countant	Accountant		Total		Chi-Square	
Sector	n	%	n	%	n	%	Value	<i>p</i> -Value
Agriculture	18	51.4	17	48.6	35	100.0		
Automotive	49	44.5	61	55.5	110	100.0		
Aviation	56	51.4	53	48.6	109	100.0		
Chemicals	85	47.5	93	52.2	178	100.0		
Commercial Services	47	43.5	61	56.5	108	100.0		
Computers	32	55.2	26	44.8	58	100.0		
Conglomerates	47	30.9	105	69.1	152	100.0		
Construction	75	44.9	92	55.1	167	100.0		
Construction Materials	53	37.9	87	62.1	140	100.0		
Consumer Durables	26	59.1	18	40.9	44	100.0		
Energy	154	32.9	314	67.1	468	100.0		
Energy Utilities	86	29.4	207	70.6	293	100.0		
Equipment	35	56.5	27	43.5	62	100.0		
Financial services	228	29.0	557	71.0	785	100.0		
Food and Beverage Products	95	38.0	155	62.0	250	100.0		
Forest and Paper Products	34	39.1	53	60.9	87	100.0		
Healthcare Products	47	48.5	50	51.5	97	100.0		
Healthcare Services	42	71.2	17	28.8	59	100.0		
Household and Personal Products	28	48.3	30	51.7	58	100.0		
Logistics	22	20.2	87	79.8	109	100.0	251.743	0.000 *
Media	18	40.9	26	59.1	44	100.0		
Metals Products	46	40.4	68	59.6	114	100.0		
Mining	83	34.0	161	66.0	244	100.0		
Non-Profit/Services	39	48.1	42	51.9	81	100.0		
Other	133	42.0	184	58.0	317	100.0		
Public Agency	52	71.2	21	28.8	73	100.0		
Railroad	13	30.2	30	69.8	43	100.0		
Real Estate	58	38.9	91	61.1	149	100.0		
Retailers	25	34.7	47	65.3	72	100.0		
Technology Hardware	97	69.3	43	30.7	140	100.0		
Telecommunications	85	36.0	151	64.0	236	100.0		
Textiles and Apparel	21	50.0	21	50.0	42	100.0		
Tobacco	4	36.4	7	63.6	11	100.0		
Tourism/Leisure	30	46.2	35	53.8	65	100.0		
Toys	0	0.0	1	100.0	1	100.0		
Universities	8	61.5	5	38.5	13	100.0		
Waste Management	15	28.3	38	71.7	53	100.0		
Water Utilities	30	49.2	31	50.8	61	100.0		
Total	2016	39.3	3112	60.7	5128	100.0		

Table 6. Choice of assurance provider at sector-level.

\* p < 0.01.

Provider	Non-Ac	countant	Accou	untant	Ta	otal	Chi-S	Square
Country Status	n	%	n	%	n	%	Value	<i>p</i> -Value
Shareholder-oriented	51	45.5	61	54.5	112	100.0		
Stakeholder-oriented	142	25.7	410	74.3	552	100.0	15 500	0.000 *
Otherwise	35	28.9	86	71.1	121	100.0	17.733	0.000 *
Total	228	29.0	557	71.0	785	100.0		
Listing Status	n	%	n	%	n	%	Value	<i>p</i> -Value
Non-listed	53	22.2	186	77.8	239	100.0		
Listed	175	32.1	371	67.9	546	100.0	7.867	0.005 *
Total	228	29.0	557	71.0	785	100.0		
Size	n	%	n	%	n	%	Value	<i>p</i> -Value
SME	20	30.3	46	69.7	66	100.0		
Large	169	29.0	414	71.0	583	100.0	0.0(1	0.070
MNE	39	28.7	97	71.3	136	100.0	0.061	0.970
Total	228	29.0	557	71.0	785	100.0		
Sector Supplement	n	%	n	%	n	%	Value	<i>p</i> -Value
Otherwise	51	29.5	122	70.5	173	100.0		
Financial services	177	28.9	435	71.1	612	100.0	0.020	0.886
Total	228	29.0	557	71.0	785	100.0		0.000

	Table 7. Bivariate analy	vsis about choice of	assurance provider	in the financia	l services sector.
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\* p < 0.01.

Table 8. Analysis of factors of choice of assurance provider at the financial services sector.

	В	S.E.	z	Sig.	Exp(B)		
Constant	0.65447	0.87907	0.745	0.4566	1.924122462		
Country (stakeholder)	2.97261	1.31316	2.264	0.0236 *	19.54285995		
Country (otherwise)	21.9771	1199.76499	0.018	0.9854	3503751190		
Listing status (listed)	-6.07014	1.43427	-4.232	$2.31  imes 10^{-5}  imes$	0.00231085		
Size (large)	-0.44856	0.91528	-0.490	0.6241	0.638546998		
Size (MNE)	15.6606	584.53295	0.027	0.9786	6328665.814		
Supplement (yes)	0.01864	0.20622	0.090	0.9280	1.018814809		
Country (stakeholder) * Size (large)	-2.15434	1.34994	-1.596	0.1105	0.115979712		
Country (shareholder) * Size (large)	-21.3671	1199.76504	-0.018	0.9858	$5.25275  imes 10^{-10}$		
Country (stakeholder) * Size (MNE)	-2.45603	1.37855	-1.782	0.0748 **	0.085774802		
Country (shareholder) * Size (MNE)	-23.00108	1199.76526	-0.019	0.9847	$1.02508  imes 10^{-10}$		
Listing status (listed) * Size (large)	6.04035	1.44858	4.170	$3.05 \times 10^{-5}$ *	420.0400232		
Listing status (listed) * Size (MNE)	-9.75041	584.53405	-0.017	0.9867	$5.82708 \times 10^{-5}$		
Chisq = 81.037 <i>p</i> -value = $2.6159 \times 10^{-12} * < 0.001$							

Nagelkerke R-square = 0.1400500Hosmer and Lemeshow: Chi-square = 5.5972; p = 0.3474Area under the curve (ROC): 0.6255Overall percentage = 73.24841%Specificity = 9.65%Sensitivity = 99.28%

\* p < 0.01; \*\* p < 0.05.

In order to assess the importance of the main factors, we performed univariate logistic regression and we calculated the decrease in residual deviance from the null model (Table 9). As expected, the main factor is country, followed by the listing status. The remaining variables produce very small reduction in residual deviance.

Table 9. Residual deviance in univariate models (choice of assurance provider).

Model	<b>Residual Deviance</b>	Decrease in Residual Deviance
Model 1: A.P. = $\alpha$ (null model)	946	
Model 2: A.P. = $\alpha + \beta_1$ country	933.16	12.84
Model 3: A.P. = $\alpha$ + $\beta_1$ listing status	937.88	8.12
Model 4: A.P. = $\alpha$ + $\beta_1$ size	945.94	0.06
Model 5: A.P. = $\alpha$ + $\beta_1$ supplement	945.98	0.02

In summary, regarding our fourth research question, we affirmed that the choice of accountants as assurance providers was positively associated with stakeholder-oriented countries, and negatively associated with listed firms. Use of the sector supplement and size was not associated with this choice. Results showed that listed large companies were more prone to choose accountants as assurors, compared to the listed SMEs. We also evidenced that, in stakeholder-oriented countries, MNEs are less prone to choose accountants, compared to SMEs.

When we shift our attention to the assurance statements, we focus on relations between assurance providers and assurance standards, assurance scope, and level of assurance.

With reference to assurance standards (Table 10), we found that 58.3% of assurance services were performed according to ISAE 3000, AA1000AS, or a combination of both standards, while 41.7% did not obey these standards. Findings indicate that ISAE 3000 was the most used standard (33.9%), which agrees with Manetti and Becatti [76], Ferreira et al. [79], and Fonseca [11], but contradicts Manetti and Toccafondi [77] and Perego and Kolk [78], who stated that most providers combined standards. The employment of ISAE 3000 was more common among accountants (44.5%), which is not surprising, given that these standards stems from an international auditing body [78]. In contrast, the use of AA1000AS was more frequent among non-accountants (39%), which shows a greater interest in stakeholders, as this standard is based on their inclusivity and responsiveness to their concerns, and also on identifying material issues to them. On the other hand, the combination of both standards is more likely among accountants (9.7%). The Pearson Chi-square test revealed that there was a significant association between assurance providers and the use of assurance standards (p < 0.01).

Standards Oth		Otherwise		AA1000AS		ISAE 3000		Combination		Total		Chi-Square	
Provider	n	%	n	%	n	%	n	%	n	%	Value	<i>p</i> -Value	
Non-accountant	109	47.8	89	39.0	18	7.9	12	5.3	228	100.0			
Accountant	218	39.1	37	6.6	248	44.5	54	9.7	557	100.0	176.511	* 0.000	
Total	327	41.7	126	16.1	266	33.9	66	8.4	785	100.0			
					* n <	0.01							

Table 10. Assurance standards per assurance provider.

With regards to the assurance scope (Table 11), results showed that most of the assurance services (46.1%) covered entire sustainability reports. Among accountants, 44.3% of assurance services focused on entire reports, 42.7% referred to specified sections, and 12.9% did not specify the scope. Among non-accountants, 50.4% of assurance services focused on entire reports, 32% referred to specified sections, and 17.5% did not define the scope. According to the Pearson Chi-square test, the type of provider was significantly associated with the assurance scope (p < 0.05). Specifically, assurance of specified sections was more usual among accountants, while assurance covering entire sustainability reports was more common among non-accountants.

Table 11. Assurance scope per assurance provider.

Scope	Unspecified		Specified Sections		Entire Report		Total		Chi-Square	
Provider	n	%	n	%	n	%	n	%	Value	p-Value
Non-accountant	40	17.5	73	32.0	115	50.4	228	100.0		
Accountant	72	12.9	238	42.7	247	44.3	557	100.0	8.405	0.015 **
Total	112	14.3	311	39.6	362	46.1	785	100.0		
				** n <	0.05					

Regarding the level of assurance (Table 12), figures revealed that most assurance statements (63.4%) refer to a limited/moderate level. This is in line with Manetti and Becatti [76] and Manetti and Toccafondi [77], but in contrast to Fonseca [11]. Among accountants, 69.8% applied a limited/moderate level, 11.1% a reasonable/high level, 3.4% combined two levels, and 15.6% did not specify the level.

Among non-accountants, 47.8% applied a limited/moderate level, 12.7% a reasonable/high level, 2.6% combined the levels, and 36.8% did not define the level. As shown by the Pearson Chi-square test, there was a significant association between assurance providers and the level of assurance (p < 0.01). Specifically, the application of a limited/moderate level and the combination of levels was more likely among accountants, while the application of a reasonable/high level was more expected among non-accountants.

Level	Unspecified		Limited/Moderate		Reasonable/High		Combination		Total		Chi-Square	
Provider	n	%	n	%	n	%	n	%	n	%	Value	<i>p</i> -Value
Non-accountar	nt 84	36.8	109	47.8	29	12.7	6	2.6	228	100.0		
Accountant	87	15.6	389	69.8	62	11.1	19	3.4	557	100.0	46.489	* 0.000
Total	171	21.8	498	63.4	91	11.6	25	3.2	785	100.0		
					* p < (	0.01.						

**Table 12.** Level of assurance per assurance provider.

Hence, answering our fifth research question, we found differences in the assurance statements, according to the type of assurance provider, which agrees with Deegan et al. [72,73]. Standards, scope, and level of assurance are associated with the type of provider. With regard to assurance standards, we support O'Dwyer and Owen [70], Mock et al. [74,75], and Perego and Kolk [78], by affirming that non-accountants widely use the AA1000AS standard, while accountants use mostly the ISAE 3000 perspective. Regarding the scope, the likelihood of assuring specified sections was higher for accountants, while the probability of assurance, we agree with O'Dwyer and Owen [70] and Mock et al. [74,75] by confirming that the likelihood of applying a limited/moderate level, which is a more conservative, cautious, and limited approach that provides low levels of assurance, is higher for accountants, while the possibility of applying a reasonable/high level, that is, a more evaluative approach that provides higher levels, is greater for non-accountants. According to Hasan et al. [71], the application of a limited/moderate level instead of a reasonable/high level is due to the nature of the case, the lack of appropriate criteria or standards, considerations of cost/benefit, the lack of proper evidence, and the needs of users.

# 5. Conclusions

The financial services sector plays a key role of intermediation in society, valuing assets, monitoring borrowers, managing risks, and organising payments, among other activities. Thus, it strongly influences society because of its large 'social footprint'.

However, the critical situation experienced by the sector during the last global crisis has caused discredit in and distrust of society because of lack of transparency. Consequently, sustainability is necessary to strengthen users' confidence among the many stakeholders that are deeply interested in its activities.

Despite its relevance and sensitiveness, the academic literature on sustainability reporting and assurance traditionally has focused mainly on 'environmentally-sensitive sectors', maintaining a research-gap regarding 'socially-sensitive sectors' that this work has wanted to address.

Although there are some works about sustainability reporting in 'socially-sensitive sectors', to the best of our knowledge there has been no research about sustainability assurance in one of the most critical of them: the financial services. In this sense, our study represents a novelty within the worldwide analysis of sector-level differences in sustainability reporting and assurance.

This study analyses whether the adoption of assurance and the choice of assurance providers are associated with sector-, country- and company-level factors. Moreover, we study differences in assurance across providers. Because of the limitations of the different theoretical frameworks to cover a complex phenomenon like sustainability reporting and assurance, we use the institutional theory to analyse the country-level factors, and legitimacy and stakeholder theories to study the company level factors.

In relation to adoption of assurance, our first results show that there is a significant association between financial Services and the adoption of assurance. The financial services sector is among the sectors where adoption of assurance is more frequent, is over the general trend, and is more likely to adopt assurance than companies from other sectors.

As a socially-sensitive sector, this is a mirror image of concern on the demands of transparency and the need for credibility. In this regard, the decision to assure sustainability reports could be explained both for the institutional, legitimacy, and stakeholder theories. From the institutional theory perspective of mimetic isomorphism, companies could adopt assurance to resemble or mimic the behaviour of competitors, especially the leaders in their sector, in response to sector pressures [49], such as competition or sensitivity to external demands and high political costs [48]. On the other hand, the adoption of assurance could be also explained by the legitimacy theory, since companies with high environmental and/or social impacts are more visible to the public and, consequently, have a greater need to demonstrate that they are socially responsible and legitimise their role in society [57]. Finally, the stakeholder theory could also explain the decision of adopting assurance, since companies from different sectors act according to their stakeholders' expectations [59], and therefore, stakeholder pressure influences this decision [45,49].

Our findings also reveal that adoption of assurance depends on company size, the use of the sector supplement, interaction between listed and multinational firms, and interaction between 'otherwise' countries and sector supplements. The importance of the effects of sector supplement, size, and listing status shows that legitimacy theory plays a main role in explaining the decision of assuring sustainability reports. In this respect, we add two precisions. First, size shows a negative association, which is in contrary to the expected sign according to legitimacy theory. This fact could be explained by the greater proximity between SMEs and their stakeholders, and according to stakeholder theory. Second, although sector supplement has not been a variable that is employed by the literature, it is understandable that its link with legitimacy theory, since firms that pursue legitimacy decide to use the sector supplement and to assure the sustainability report. Both contribute to the credibility of their commitment with sustainability.

With reference to the choice of assurance providers, our results reveal that it is associated with the sector where companies operate. Specifically, financial services companies show a preference by accountants. The choice of accountants could be justified because of the perception that this type of providers offers a higher quality [75]. Perego [80], Zorio et al. [63], and Fernández-Feijoó-Souto et al. [81] stated that the quality of assurance is higher when the provider is an accountant. Accordingly, the legitimacy theory could explain this choice, since companies operating in more visible sectors act to show their commitment with sustainability, and accountants seem to provide more quality. The stakeholder theory could also explain this decision, since stakeholder pressure influences the selection of assurance providers [45].

Our findings also evidence that the choice of assurance provider depends on the country where the company is located, in the way that companies domiciled in stakeholder-oriented countries are more likely to choose accountants than companies located in shareholder-oriented countries. In this respect, institutional theory could explain this choice, since from the perspective of the coercive isomorphism, it seems that the legal systems act as an influential factor. We also found that listing status influences choice of provider, with non-listed companies being more likely to choose accountants than listed companies (despite assurors accountants have higher perceived quality). However, we point out that, within the group of listed companies, large companies prefer accounting firms. On the other hand, we did not find that the size and the use of the sector supplement influenced the choice of assurance provider.

Focusing on the assurance statements, findings show the differences across providers. Regarding assurance standards, most of assurance services were performed according to ISAE 3000, AA1000AS

or a combination of both standards. Specifically, ISAE 3000 is mainly employed by accountants, while AA1000AS is mostly used by non-accountants. The adoption of these standards is consistent with the institutional theory approach of normative isomorphism [42,54]. With reference to the scope, we found that assurance on entire sustainability report is more common among non-accountants, while assurance on specified sections is more frequent among accountants. For the level of assurance, the application of a limited/moderate level and the combination of levels are more likely among accountants, while the application of a reasonable/high level is more highly expected among non-accountants. This is seen as accountants being more likely to apply a more conservative, cautious, and limited approach to provide low levels of assurance, while non-accountants apply a more evaluative approach and provided higher levels [70,74,75].

For limitations, it should be noted that results can only be generalised to companies that are included in the GRI database and, therefore, we cannot extrapolate them to the whole financial services sector.

Finally, we formulate as future research lines the analysis of other factors that could influence the decision of adopting sustainability assurance and the choice of providers. Moreover, we propose to examine assurance statements in depth, to assess their quality, and to determine what factors affect this quality. It would be interesting to study sustainability assurance practices in other sectors to compare whether companies are affected by the same factors in all sectors. This is especially interesting among 'sensitive sectors'. In addition, researchers could interview companies about their assurance practices to know their motivations, benefits, and barriers to assure their sustainability reports. Finally, we propose to study the opinion of stakeholders with regards to the assurance services.

Author Contributions: E.S.-M. and H.M.B.-A. conceived the paper; E.S.-M., H.M.B.-A. and F.P.-G. designed and performed the experiments; E.S.-M. and H.M.B.-A. wrote the literature review section and set the hypotheses. E.S.-M. and H.M.B.-A. and F.P.-G. analyzed the data; E.S.-M., H.M.B.-A. and F.P.-G. wrote the conclusions and the paper.

Conflicts of Interest: The authors declare no conflict of interest.

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