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Financial Internet Quarterly

COMPARATIVE ANALYSIS OF THE CONTRIBUTION TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS THROUGH NON-FINANCIAL INFORMATION DISCLOSED BY IBEX 35 COMPANIES[1]

Esperanza Calvo-Centeno[2], Enrique Gragera-Pizarro[3], Eva Romero-Ramos[4], Eva Ropero-Moriones[5]

Abstract The purpose of this research is to examine the non-financial key performance indicators contemplated in Directive 2014/95/EU through the prism of the Sustainable Development Goals (SDGs). To do this, the presence of the indicators contemplated in the United Nations 2030 Agenda in the non-financial information disclosed by the groups of companies listed in the Spanish IBEX 35 index in the years 2017 and 2019 has been analyzed. The obtained results show an increase in the presence of SDGs in the non-financial reports of IBEX35 listed companies. Furthermore, the statistical analysis reveals that there are no significant differences in the number of SDGs incorporated as non-financial key performance indicators between the different business sectors. The methodology used in this research also constitutes a tool that can be used to learn about the implementation of social and environmental policies in other companies.

JEL classification: M480, M410, Q560, M210

Keywords: Directive 2014/95/EU, Sustainable Development Goals, SDGs, Thematic Content Analysis, Legitimacy Theory

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Introduction

Non-financial information disclosed by organizations can contribute to a true reflection of the activities carried out by them, as well as of the impact generated or potentially generating social and environmental damage. The serious consequences for people and for the maintenance of the natural environment, which can be generated by both social and environmental policies that only pursue business profit, is a topic of interest that has led to sustainability being addressed in European institutions such as the Parliament and the Council and in international organizations such as the United Nations.

Directive 2014/95/EU has been the starting point to stimulate the transparency of non-financial information disclosed by listed companies in the European Union (Pichler & Lehner, 2017). The regulation establishes that large corporations have the obligation to present non-financial information. They must include, in the consolidated management report, a consolidated non-financial statement containing information relating to environmental and social issues, as well as questions related to staff, respect for human rights and the fight against corruption and bribery. The consolidated management reports must also include non-financial key performance indicators, which are relevant with respect to the specific business activity. In Spain, the transposition of the EU standard into Spanish law is summarized in Table 1.

Table 1: Transposition of Directive 2014/95/EU into Spanish law

1	Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial information and diversity information.
2	European Commission Guidelines, July 5, 2017, on non-financial reporting, incorporating methodology for non-financial reporting.
3	Royal Decree-Law 18/2017, of November 24, which amends the legal system, allowing the transposition of Directive 2014/95/EU. Applicable for fiscal years beginning on January 2017 or after.
4	Law 11/2018, of December 28, on non-financial information and diversity, introducing amendments that are applicable for fiscal years beginning on January 1, 2018 or after.

Source: Prepared by the authors.

On the other hand, with the adoption in September 2015, by the United Nations, of the 2030 Agenda for Sustainable Development (Agenda 2030), a new framework was born to achieve sustainable development and poverty eradication, channeled through the 17 Sustainable Development Goals (SDGs) (Figure 1).

Figure 1: Sustainable Development Goals (SDGs)

Source: United Nations Development Programme (2021).

The European Commission published in November 2016, the Communication entitled "Next steps towards a sustainable European future - European action for sustainability", proposing a new European consensus on development, underpinned by promoting the implementation of the 2030 Agenda in partnership with developing countries. Likewise, the Commission's guidelines highlight that the disclosure requirements derived from Directive 2014/95/EU constitute an important contribution to the SDGs.

The content of Law 11/2018 is more specific with respect to non-financial key performance indicators, establishing that with the objective of facilitating the comparison of information, both over time and between entities, especially non-financial key indicator standards that can be generally applied and that comply with the European Commission's guidelines will be used.

The amendments incorporated by Law 11/2018 contemplate that the consolidated non-financial information statement shall include significant and detailed information on the following matters:

1) Information on environmental issues: pollution; circular economy and waste prevention and management; sustainable use of resources; climate change and biodiversity protection.
2) Information on social and personnel issues: employment; work organization; health and safety; social relations; training; universal accessibility for people with disabilities and equality.
3) Information on respect for human rights.
4) Information on the fight against corruption and bribery.
5) Information on society: company commitments to sustainable development; subcontracting and suppliers; consumers and tax information.

New legislation is changing the expectations of companies and altering the way in which environmental, social and economic impacts must be balanced for proper decision making (Dahlsrud, 2008).

This research allows us to analyze how the incorporation of the SDGs as key non-financial performance indicators has changed in listed companies, in order to adopt sustainable strategies aligned with the United Nations 2030 Agenda. All this, is under the prism of Directive 2014/95/EU.

The research focused on sustainability highlights the interest it arouses in the scientific literature and the need for organizations to keep it in mind in their management strategies. In 2020, the literary production on the subject accounted for 27% of Wos and 35% of Scopus (López et al., 2021).

In summary, this article is the beginning of an investigation that will contribute to a better understanding of the degree of compliance with the objectives set out in relation to the SDGs as non-financial reporting standards. We believe that it could be the starting point for analysing the evolution of the non-financial information that companies will report in the coming years and how these recommendations are consolidating among corporations.

The aim of this article is to find out the degree of engagement with the 2030 Agenda of IBEX 35 companies, determining whether there are differences between the different sectors of activity and analysing the possible growth in this engagement between the non-financial reports from 2017 to 2019.

In order to do so, Section 2 introduces the theoretical framework, and formally describes the objectives of our study and the methodology.

Section 3 develops the statistical analysis and presents the results derived from it. Finally, Section 4 synthesises the main conclusions obtained and in Section 5 the results are discussed and future lines of research are presented.

Research methodology

Theoretical framework

This research is based on the importance of environmental and social variables in the economic development of organizations. The relationship generated between companies and society generates a kind of social contract derived from the transactions carried out between both parts. Firms seek to legitimize their actions before society in order to perpetuate their activity over time. The Legitimacy Theory presents a theoretical perspective that can help to interpret the different levels of corporate reporting in the field of social responsibility.

The Legitimacy Theory was born as an alternative to the economic postulate of maximizing profit for shareholders (Benston, 1982). Legitimacy arises when the ethical approaches of an organization are in line with the ethical values inherent in society (Lindblom, 1994), diminishing reputational and negotiation risks (Deephouse et al., 2017; Thomas & Lamm, 2012). "Legitimacy in business ethics subsists in the organization when the objectives and ways of operating are in line with social norms and community bastions" (Medina et al., 2008, p. 4).

The need for organizations to legitimize their existence within society makes them disclose information on sustainability (Deegan, 2002). The existing agreement between companies and society is sealed through the disclosure of socially responsible information that allows projecting an image of the entity that legitimizes certain actions (Archel & Lizarraga, 2001). According to the arguments of the Legitimacy Theory, the disclosure of information on sustainability can influence the perceptions that stakeholders have of a corporation (Patten, 1992). Based on this theory we will examine the non-financial information disclosed by listed companies under the prism of Directive 2014/95/EU.

In a first approximation, it seems appropriate to assume that the sector of activity to which a company belongs will be related to its level of non-financial information. All this, considering that there are sectors that are more sensitive than others, both socially and environmentally, and consequently susceptible to creating more damage to the environment. According to Husillos (2007, p. 97) in a scientific work that attempts to approximate the Theory of Legitimacy to the environmental information disclosed by listed companies, "companies issue environmental information to influence the perception that society has of them".

Campbell (2003), uses the Legitimacy Theory to prove that companies belonging to the same business sector also tend to have a similar level of non-financial information in sustainability reports. As Watts and Zimmerman (1986, p. 239) point out, "If a company did not adopt the same disclosure strategy as other corporations in the same industry, it could be interpreted by the market as bad news."

With respect to empirical studies, industry has been one of the explanatory factors studied in relation to the non-financial information disclosed. A review of the scientific literature shows that several authors have supported the relationship between this type of information and the sector of activity (Deegan & Gordon, 1996; Moneva & Llena, 1996; Clarke & Gibson-Sweet, 1999). Companies belonging to primary and secondary industries tend to disclose more information than industries included in the tertiary sector (Kelly, 1981). According to Archel (2003) and García Ayuso and Larrinaga, (2003), large corporations in the energy and oil sectors disclose more non-financial information. Belonging to an environmentally sensitive sector is significantly related to the degree of disclosure of sustainability information (Da Silva & Aibar, 2011). The differences observed in the amount of non-financial information disclosed by companies, related to Directive 2014/95/EU, in the different sectors of activity are significant (Calvo, 2016; Calvo et al., 2016). Although most of the studies analyzed have found an association between the sector of activity and the non-financial information disclosed by companies, other papers (Marston & Leow, 1998; Larrán & Giner 2002; Calvo et al., 2018a, Calvo et al., 2018b) have not found a significant relationship.

Approach to objectives

In such a relevant scenario and under the perspective of Directive 2014/95/EU, we used as a starting point the article by Calvo et al. (2018b), whose objective was to determine whether the entry into force of Decree-Law 18/2017 had contributed to the non-financial information disclosed by listed companies being aligned with the SDGs. To this end, the consolidated non-financial statements corresponding to the 2017 financial year were reviewed and an index (ISDG) was prepared, based on the 17 United Nations goals, which serves to measure the degree of incorporation of these goals into the non-financial reports. Finally, a statistical analysis of the ISDG was carried out to determine whether belonging to a sector of activity is related to the degree of contribution to the goals of the 2030 Agenda. The sectors of activity were those established in the Madrid Stock Exchange for companies listed on the IBEX 35.

In this context, this article sets out to make a comparison of the non-financial information present in the financial statements for the 2017 and 2019 financial years, using the index generated in the article by Calvo et al. (2018b). Based on the above, the main objective of this research is to analyze the SDGs as non-financial key performance indicators included in Directive 2014/95/EU in both fiscal years, comparing the year immediately after the transposition of the directive with the most recent year for which data are available. The specific objectives include the following:

First specific objective: To ascertain the degree of linkage with the 2030 Agenda of the groups listed on the IBEX 35 index of the Madrid Stock Exchange, through the consolidated non-financial statements, corresponding to fiscal year 2019, after the entry into force of Law 28/2011.

Second specific objective: To examine if in the non-financial information corresponding to the fiscal year 2019, belonging to a sector of activity is related to the degree of contribution to the SDGs.

Third specific objective: To determine if the amendments introduced by Law 28/11 have affected the level of non-financial information aligned with the SDGs, for which purpose a comparison is made with the non-financial information corresponding to 2017 and disclosed based on Royal Decree-Law 18/2017.

Methodology

To determine the degree of linkage of non-financial information disclosed by listed companies, using the principles contained in the 2030 Agenda as key performance indicators, we first use a voluntary disclosure index ISDG (Calvo et al., 2018b) developed from the 17 SDGs. This index serves to measure the amount of information disclosed by the groups of companies under study. The ISDG allows us to perform a statistical analysis of the presence of these development goals in non-financial reports and their behavior by sector. It also allows us to compare whether there are significant differences between the current situation and the situation found immediately after the transposition of the directive. Finally, an ANOVA analysis is performed to evaluate the significance of the possible differences observed in the information disclosed between sectors of activity.

The sample analyzed in this work is composed of the companies listed on the Madrid Stock Exchange in 2019, that were included in the IBEX 35 index of the Madrid Stock Exchange on December 31, 2017. To find out which companies were included in that index, we obtained the information on the historical composition of the IBEX 35 Index in 2017 from the website of the Madrid Stock Exchange (Bolsa de Madrid, 2017).

The sample is made up of the 35 companies listed in Appendix I and is made up of companies from all sectors of the economy. The composition of IBEX 35 companies in each sector is as follows: Oil and Energy (17%); Basic Materials, Industry and Construction (20%); Consumer Goods (9%); Consumer Services (17%); Financial Services and Real Estate (26%) and Technology and Telecommunications (11%).

The generated SDG disclosure index (ISDG) is the instrument used to find out whether belonging to a sector of activity has an impact on the amount of information disclosed. The non-financial disclosure index is considered a basic tool for determining information transparency (Bonsón & Escobar, 2004). Also, it constitutes the most widely used method in the economic literature to measure information disclosure (García-Meca & Martínez, 2004), and it is a contrasted method for data aggregation (Rodríguez et al., 2013) that transforms qualitative information into quantitative information.

In this study, the methodology of thematic content analysis was used to review the content of the information. This is the most commonly used type of analysis for this type of study (Tejedo, 2013), being a research technique for the objective, systematic and quantitative description of the content of the communication (Berelson, 1952). The organization of the analysis was based on the three phases proposed by Bardin (2002): pre-analysis, analysis of the material and treatment and interpretation of the results obtained.

The purpose of the pre-analysis phase is to select the information: to choose the documents and develop the indicators on which the final interpretation will be based (Bardin, 2002). The information selected is that disclosed in the consolidated non-financial statement published on the websites of listed companies. To measure the degree of contribution to the SDGs, a non-financial disclosure index (ISDG) has been used, taking as a reference the 17 SDGs of the United Nations 2030 Agenda (Calvo et al., 2018b). The ISDG is an unweighted index to avoid the arbitrariness inherent in the process of assigning different weights to variables (Bonsón & Escobar, 2004).

The objective of the material analysis phase includes the choice of the units of analysis and the counting rules (Bardin, 2002). In order to choose the units of analysis, we have determined the word as the reference unit. The keywords that have been related for each of the 17 items have been: Sustainable Development Goals, SDGs (both in Spanish or English). The counting system used is the one proposed by Archel and Lizarraga (2001), which is based on a dichotomous scale with the number 1 if the entity discloses the data and with the number 0 otherwise. The score of each entity is transferred to the index, dividing the total score achieved by the maximum number of points assigned to the scale (17). To express it as a percentage, we multiply it by 100.

Results

In this section we will analyze the ISDG index obtained in 2019, which reflects the presence of the SDGs in the companies that made up the IBEX 35 index in 2017, and compare the results obtained with the same ISDG index in 2017, already analyzed by Calvo et al., 2018b.

Table 2 shows the main descriptive statistics for the index created with the SDG information for the years 2017 and 2019.

Table 2: Main descriptive statistics for the ISDG index

	ISDG 2017	ISDG 2019
Arithmetic Mean	41.85	58.49
Median	41.18	58.82
Maximum	100.00	100.00
Minimum	0.00	0.00
Standard Deviation	30.99	24.38
Variation Coefficient	0.74	0.42
Skewness coefficient	0.30	-0.19
Kurtosis coefficient	-0.91	-0.50
Jarque-Bera normality test	1.80	0.72
p-value	0.41	0.70

Source: Prepared by the authors based on the results obtained with SPSS and Eviews statistical software.

In 2017, it was observed that among the companies comprising the IBEX35, there were six companies that did not incorporate any of the SDGs set out by the United Nations in the context of the 2030 Agenda and only two that incorporated all of them (Telefónica & Iberdrola). On average, the Ibex-35 companies covered 41.85% of the recommendations, a figure that was not particularly representative due to the dispersion of the sample (CV=0.74). In 2019, the average number of SDGs incorporated by companies in their reports has risen to 58.49%, and the representativeness of this mean has improved, since its dispersion has been reduced (CV=0.42). There is only one company that does not include any SDG and there are still two companies that include all of them, but they have changed, being now CaixaBank and Iberdrola. 50% of companies presented more than 7 SDGs in their non-financial reports in 2017, while in 2019 this figure has risen to more than 10 SDGs.

Table 3 shows the comparison of the number of companies presenting each SDG in 2017 and 2019.

Table 3: Percentage of companies that include each SDG in their non-financial reports

SDGs		2017	2019
1	No poverty	31.43%	40.00%
2	Zero Hunger	8.57%	28.57%
3	Good Health and Well-being	45.71%	65.71%
4	Quality Education	48.57%	80.00%
5	Gender Equality	51.43%	68.57%
6	Clean Water and Sanitation	31.43%	45.71%
7	Affordable and Clean Energy	45.71%	54.29%
8	Decent Work and Economic Growth	65.71%	85.71%
9	Industry. Innovation and Infrastructure	60.00%	74.29%
10	Reducing Inequality	34.29%	65.71%
11	Sustainable Cities and Communities	40.00%	68.57%
12	Responsible Consumption and Production	45.71%	65.71%
13	Climate Action	74.29%	82.86%

14	Life Below Water	20.00%	20.00%
15	Life On Land	25.71%	45.71%
16	Peace. Justice. and Strong Institutions	37.14%	45.71%
17	Partnerships for the Goals	45.71%	57.14%

Source: Prepared by the authors.

In 2019 the SDG incorporated by more companies is the one referring to "Decent work and economic growth" (SDG 8), present in 85.71% of the companies, while in 2017 the goal "Climate action" (SDG 13) stood out, in 74.28% of the companies. This last objective in 2019 appears in 2nd place, with 82.86% of companies taking it into account in their report. The "Quality education" goal (SDG 4) and the "Industry, innovation and infrastructure" goal (SDG 9) also stand out with 80% of companies (74.29%).

The SDG that the fewest companies incorporate in their 2019 reports is " Life Below Water " (SDG 14), with only 20% of companies taking it into account, followed by "Zero hunger" (SDG 2), at 28.57% of companies. In 2017, the latter was the SDG incorporated by the fewest companies, present in only 8.57% of the reports.

As for the evolution from 2017 to 2019, we can see that all SDGs are present in a greater number of reports, except "Life Below Water" (SDG 14) which continues to be incorporated by the same 7 companies. The SDGs that have experienced the greatest increase are "Quality Education" (SDG 4) and "Reducing Inequalities" (SDG 10), now appearing in the reports of 11 more companies than in 2017, closely followed by "Sustainable Cities and Communities" (SDG 11), which has been incorporated in the reports of 10 more companies.

But, in order to be able to affirm that there has truly been a significant change in the concern of Spanish listed companies to incorporate the SDGs in their reports, it is necessary to perform a difference analysis contrast for paired samples of the ISDG index values between 2017 and 2019. This contrast is presented below, performing a paired samples T-test.

Figure 2: T - test

Paired sample statistics

		Mean	N	Standard deviation	Standard error mean
Pair 1	ISDG2019	58.4871	35	24.37704	4.12047
	ISDG2017	41.8487	35	30.98790	5.23791

Paired sample correlations

		N	Correlation	Sig.
Pair 1	ISDG2019 & ISDG2017	35	.582	.000

Paired samples test

		Paired differences					t	gl	Sig. (bilateral)
		Mean	Standard deviation	Standard error mean	95% of confidence interval of the difference				
					Lower	Upper			
Pair 1	ISDG2019 - ISDG2017	16.64	25.98	4.39	7.715	25.560	3.789	34	.001

Source: Prepared by the authors by using SPSS software.

According to the paired samples T-test there are significant differences in the ISDG index values for each company between 2017 and 2019, since at a significance level of 0.01 there is enough evidence to reject the null hypothesis of equality of means. It is observed that the mean in the index has increased, because of a greater social requirement on the SDGs. This result can be understood as a way for companies to respond to increased social concern regarding sustainable development. Listed companies are increasingly showing the need to project an image in line with sustainability and are finding in the SDGs, as key indicators of non-financial results, a way to achieve this objective.

To analyze the situation by sector, Table 4 below shows the main descriptive statistics for the index in both years by sector.

Table 4: Mean and standard deviation of the index by sectors

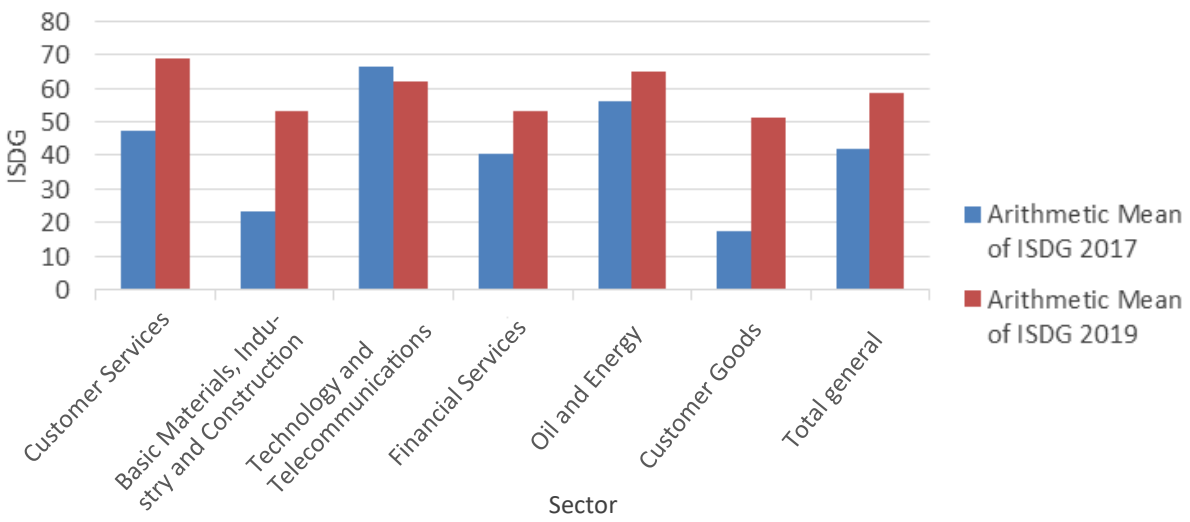
		ISDG2017			ISDG2019		
		Mean	Standard deviation	Variation coefficient	Mean	Standard deviation	Variation coefficient
SECTOR	Consumer Goods	17.65	15.56	0.88	50.98	14.81	0.29
	Basic Materials. Industry and Construction	23.53	23.77	1.01	52.94	24.49	0.46
	Oil and Energy	55.88	34.05	0.61	64.71	30.68	0.47
	Consumer Services	47.06	28.33	0.60	68.63	16.50	0.24
	Financial Services and Real Estate	40.52	32.55	0.80	52.94	29.12	0.55
	Technology and Telecommunications	66.18	29.75	0.45	61.76	24.25	0.39
	Total	**41.85**	**30.99**	**0.74**	**58.49**	**24.38**	**0.42**

Source: Prepared by the authors by using SPSS software.

It could be noted that the average value for this index is especially high in the "Consumer Services" companies with an average index of 68.63%, while in 2017 they presented an intermediate value with respect to the rest of the sectors. In 2017, the "Technology and Telecommunications" sector stood out, incorporating on average 66.18% of the SDGs in its non-financial reports. This sector has decreased its average and in 2019 is in 3rd place, although it is still above the overall average.

Only three IBEX 35 companies belonged to the "Goods and consumption" sector in 2017 and that year one of them did not include any of the SDGs in its reports. In 2019, the situation changed drastically, and the average number of SDGs incorporated by these 3 companies has risen to be on a par with the rest of the sectors. The average has increased in this period from 17.68 in 2017 to 50.98 in 2019, presenting the highest increase found in all sectors. All companies in this sector have increased their concern regarding the SDGs so now the dispersion in this sector has decreased. In the case of the "Basic Materials, Industry and Construction" sector, two companies did not include any SDGs, while two others included in their reports more than half of the recommendations, making this sector present the highest dispersion of all sectors in 2017, with a coefficient of variation of 1.01. In 2019 the situation is different, and the coefficient of variation has dropped to 0.46. In general, companies in this sector have increased the number of SDGs present in their reports increasing their average from 23.53 in 2017 to 52.94 in 2019 while reducing the dispersion. Figure 3 allows us to compare the ISDG averages by sector for the 2017 and 2019 fiscal years.

Figure 3: Average of the ISDG index by sector



Source: Prepared by the authors.

The graph shows how most of the sectors have significantly increased their concern for the incorporation of the SDGs in their reports. Only the Technology and telecommunications sector, which presented the maximum in 2017, has slightly decreased its average for the ISDG index. To check whether this behavior we observed in the index in the sample of IBEX 35 companies is applicable to all listed companies we would need to perform paired samples T-test for each sector. However, given the small sample size we have in some sectors, the results of the test would not be conclusive.

However, regarding the second proposed objective, we will check whether there are significant differences between the values taken by this index for the different sectors. To do this, it is necessary to perform an ANOVA test of equality of means. This test allows us to verify the null hypothesis, which indicates that the means of the index in the different sectors are equal, against the alternative, which indicates that there are differences between the means of the index for the different sectors. This is a parametric test that can be applied in this case, after having verified that the index data come from a normal distribution using the Jarque-Bera test (see Table 2). We will apply the test to the index for the year 2017 and also for the year 2019.

Table 5: Equality of means test (ANOVA)

Test for Equality of Means of INDICE2017 Categorized by values of SECTOR Date: 03/26/21 Time: 12:17 Sample: 1 35 Included observations: 35				Test for Equality of Means of INDICE2019 Categorized by values of SECTOR Date: 03/29/21 Time: 14:04 Sample: 1 35 Included observations: 35			
Method	**df**	**Value**	**Probability**	**Method**	**df**	**Value**	**Probability**
Anova F-test	(5,29.0000)	1.831086	0.1379	Anova F-test	(5,29.0000)	0.482983	0.7860
Welch F-test*	(5,11.1288)	2.151903	0.1337	Welch F-test*	(5,10.9335)	0.642133	0.6731
*Test allows for unequal cell variances Analysis of Variance				*Test allows for unequal cell variances Analysis of Variance			
Source of Variation	**df**	**Sum of Sq.**	**Mean Sq.**	**Source of Variation**	**df**	**Sum of Sq.**	**Mean Sq.**
Between	5	7834.047	1566.8090	Between	5	1553.127	310.6254
Within	29	24814.490	855.6722	Within	29	18651.030	643.1390
Total	34	32648.540	960.2512	Total	34	20204.160	594.2399

Category Statistics					Category Statistics				
Sector	Count	Mean	Std. Dev.	Std. Err. of Mean	Sector	Count	Mean	Std. Dev.	Std. Err. of Mean
Oil and Energy	3	17.6471	15.56324	8.985443	Oil and Energy	3	50.9800	14.80761	8.549177
Basic Materials, Industry and Construction	7	23.5294	23.77325	8.985443	Basic Materials, Industry and Construction	7	52.9414	24.48880	9.258960
Consumer Goods	6	55.8823	34.04658	13.899460	Consumer Goods	6	64.7050	30.67975	12.524960
Consumer Services	6	47.0588	28.33316	11.566970	Consumer Services	6	68.6283	16.49887	6.735635
Financial Services and Real Estate	9	40.5229	32.54548	10.848490	Financial Services and Real Estate	9	52.9411	29.11689	9.705630
Technology and Telecommunications	4	66.1765	29.75292	14.876460	Technology and Telecommunications	4	61.7625	24.25316	12.126580
All	35	41.8487	30.98792	5.237915	All	35	58.4871	24.37704	4.120471

Source: Prepared by the authors based on E-views statistical software.

Table 5 shows the equality of means test (ANOVA) for the ISDG variable ordered by sectors, for the years 2017 (Left) and 2019 (Right). The figure also shows in the lower part a table with some descriptive statistics of the index for both years by sectors. The upper part shows the results of the hypothesis contrast, which as it was already indicated, test the null hypothesis that the means by sectors are equal. For the 2017 sample, we obtained a value of the contrast statistic of 1.83 and a p-value of 0.1379. With these data, at the 0.05 significance level we do not have sufficient evidence to reject the null hypothesis that the index means for the different sectors are equal. We conclude, therefore, that there are no significant differences in the concern of companies in the different sectors to embrace the recommendations of the United Nations Agenda 2030.

If we consider the index data for 2019 we observe a value for the ANOVA contrast statistic of 0.4830 and a p-value of 0.7960. Again, at the 0.05 significance level we do not have sufficient evidence to reject the null hypothesis of equality of means of the index by sector. Therefore, it can be concluded that the concern of companies in the different sectors to comply with the recommendations of the United Nations in its Agenda 2030 remains homogeneous. In fact, looking at the data of the sample averages obtained by sector, it can be noted that the interest of companies by sector in this respect tends to homogenize. The obtained results allow us to affirm that there are not significative differences in the level of non-financial information on sustainability provide for listed companies of different sectors. The effort made by the groups of companies with regard to the disclosure of information based on the SDGs in order to meet the requirements on non-financial information included in Directive 2014/95/EU can be appreciated.

Conclusions

After analyzing the results obtained and relating them to the objectives of our study, the following conclusions can be found:

In relation to the first specific objective: to know the degree of linkage of the groups listed on the IBEX 35 index of the Madrid Stock Exchange with Agenda 2030, through the consolidated non-financial statements, corresponding to the fiscal year 2019, after the entry into force of Law 28/2011, it can be concluded that:

1) Companies currently include an average of ten SDGs in their reports. The SDGs "Decent work and economic growth", "Climate action", "Quality education" and "Industry, innovation and infrastructure" are incorporated by the highest number of compa-

nies. The SDGs incorporated by the fewest number of companies in their 2019 reports are "Life Below Water" and "Zero hunger".

2) Only one of the IBEX 35 companies shows no linkage with the SDGs in its reports. Therefore, practically all the companies studied show in their non-financial reports their link to the goals of the 2030 Agenda, incorporating information on the implementation and development that these companies have carried out on more than half, on average, of the SDGs proposed by the United Nations.

In relation to the second specific objective: To examine whether in the non-financial information for the fiscal year 2019, belonging to a sector of activity is related to the degree of contribution to the SDGs, it can be concluded that:

1) We do not have sufficient evidence to reject the null hypothesis of equality of averages of the index by sector. Therefore, it must be concluded that the concern of companies in the different sectors to comply with the recommendations of the United Nations in its 2030 agenda is homogeneous. The obtained findings are conclusive for the Ibex 35 companies, but the small sample size, especially in some sectors, means that they cannot be extrapolated to the industry in general.
2) As shown in the theoretical framework, in most of the studies analyzed, a relationship has been found between the linkage to the disclosed non-financial information and the sector of activity. However, the result of this research coincides with the works of (Marston & Leow, 1998; Larrán & Giner, 2002; Calvo et al., 2018a, Calvo et al., 2018b) in which a significant relationship was not found either.

In relation to the third specific objective: To determine whether the amendments introduced by Law 28/11 have affected the level of non-financial information aligned with the SDGs, for which we proceed to make a comparison with the non-financial information corresponding to 2017 and disclosed based on Royal Decree-Law 18/2017, it can be concluded that:

3) In the analyzed period, almost all the companies in the study have increased their engagement with the SDGs. This trend has been generalized across all sectors, as most of them have significantly increased their concern for the incorporation of the SDGs in their reports. Only the Technology & Telecommunications sector, which had the highest ISDG in 2017, has slightly decreased its index average value in 2019.
4) The number of SDGs for which the companies studied show interest has increased. Thus, the average of the ISDG has increased in this two year period, growing from an average of 41.85% in 2017 to an average of 58.49% in 2019. The representativeness of these values has also grown because the dispersion has been reduced. This increase is statistically significant according to the paired samples t-test.
5) All SDGs have increased the number of companies reporting on them, except for “Life Below Water". The SDGs that have had the biggest increase in their reporting between 2017 and 2019 have been "Quality Education" and "Reducing Inequalities".
6) In 2017, there were six companies that did not incorporate any of the SDGs set out by the United Nations in the context of the 2030 Agenda. This number has been reduced to just one company in 2019.

Finally, and as a conclusion derived from the main objective "to analyze the evolution of the SDGs as non-financial key performance indicators included in Directive 2014/95/EU", it can be affirmed that IBEX 35 companies in all the sectors studied are increasing their engagement with the SDGs. In this regard, they are trying to respond more in line with the objectives of the 2030 agenda and the interests of stakeholders, showing increasingly higher levels of information in their non-financial reports, both in quantity and quality. However, it should be noted that in order to achieve successful implementation of the 2030 Agenda and address the challenge of sustainability, all SDGs must act together as a system of interacting gears (Pradhan et al., 2017).

Discussion

The results obtained lead us to deduce that among the groups of listed companies analyzed there are companies that comply with the postulates of the theory of legitimacy, since the information shown in the consolidated non-financial statements could be due to an attempt to legitimize the actions of these entities in the view of society.

The generalized increase in the contribution to the SDGs in all sectors of activity may be attributable to the fact that these companies have significantly increased their concern for the incorporation of the SDGs in their non-financial reports, due to the possible need to legitimize their social, environmental and economic actions following the requirements of Directive 2014/95/EU.

As stated in SDG 17, in order to achieve sustainable development, a partnership between the private sector, the public sector and civil society is required. The analyzed entities, through the legitimization of their actions, could try to align their interests with those of their stakeholders by sharing principles and values centered on the people and the planet.

In line with the research of Gusmão et al. (2018), it can be assumed that it is essential to use sustainable non-financial indicators to serve as a benchmark for the future strategies of corporations, and thus strengthen relationships with their stakeholders.

We hope that the contributions derived from this research can help the listed groups to implement policies that contribute to the achievement of the goals included in the 2030 Agenda, and in particular those companies that have not yet contributed to the achievement of any of the SDGs.

For future lines of research, we consider interesting the analysis of the information on sustainability of groups of companies listed on the Madrid Stock Exchange using the methodology of content analysis. This would allow us to know, at a local level, the evolution of non-financial information derived from the transposition of Directive 2014/95/EU, using the SDGs as key performance indicators. Also, it would allow us to know if the amount of non-financial information disclosed is not still conditioned by belonging to a particular sector of activity.

Finally, at the European Union level, it would be of interest to compare the results of this research with those expected to be carried out in other Member States.

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Apendix 1

Table A1: Sector classification

NAME	SECTOR
ENAGAS	Oil and Energy
ENDESA	Oil and Energy
GAS NATURAL	Oil and Energy
IBERDROLA	Oil and Energy
RED ELE.CORP	Oil and Energy
REPSOL	Oil and Energy
ACCIONA	Basic Materials, Industry and Construction
ACERINOX	Basic Materials, Industry and Construction
ACS CONST.	Basic Materials, Industry and Construction
ARCEL.MITTAL	Basic Materials, Industry and Construction
FERROVIAL	Basic Materials, Industry and Construction
SIEMENS GAMESA	Basic Materials, Industry and Construction
TEC.REUNIDAS	Basic Materials, Industry and Construction
GRIFOLS	Consumer Goods
INDITEX	Consumer Goods
VISCOFAN	Consumer Goods
ABERTIS	Consumer Services
AENA	Consumer Services
DIA	Consumer Services
INT.AIRL.GRP (IAG)	Consumer Services
MEDIASET ESP	Consumer Services
MELIA HOTELS	Consumer Services
B. SABADELL	Financial Services and Real Estate
BA. SANTANDER	Financial Services and Real Estate
BANKIA	Financial Services and Real Estate
BANKINTER	Financial Services and Real Estate
BBVA	Financial Services and Real Estate
CAIXABANK	Financial Services and Real Estate
INM. COLONIAL	Financial Services and Real Estate
MAPFRE	Financial Services and Real Estate
MERLIN PROP.	Financial Services and Real Estate
AMADEUS	Technology and Telecommunications
CELLNEX	Technology and Telecommunications
INDRA	Technology and Telecommunications
TELEFONICA	Technology and Telecommunications

Source: Prepared by the authors based on Madrid Stock Exchange (2017) and Bolsas y Mercados Españoles (BME), 2017. Publicaciones y estadísticas. Informes de mercado 2017. Balance de actividad. Retrieved on April 25. 2021 from: https://www.bolsasymercados.es/docs/infmercado/2017/esp/IM2017.pdf.