Sustainability Reporting Quality of Peruvian Listed Companies and the Impact of Regulatory Requirements of Sustainability Disclosures

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Abstract: Regulations establishing mandatory sustainability reporting practices are proliferating around the world. The empirical evidence comparing sustainability reporting quality (SRQ) in the context of mandatory and voluntary institutional frameworks does not show consensus. Similarly, this occurs with studies addressing the effects of regulatory shocks on SRQ. Moreover, empirical evidence addressing SRQ in Latin American countries is scarce. To fill this gap, this study aims to explore the consequences of introducing new regulatory requirements for sustainability disclosure on SRQ of Peruvian companies. To reach that goal, 81 sustainability disclosure documents published between 2014 and 2016 by 27 companies included in the S&P/BVL Peru General Index of Lima’s Stock Exchange were analyzed using qualitative content analysis methods and adopting a multidimensional approach for SRQ evaluation. The findings show a constant improvement of SRQ regardless of the introduction of the new regulatory requirements. Furthermore, after the entry into force of new sustainability reporting obligations, the number of companies providing third-party independent assurance of the information contained in their sustainability disclosure documents decreases, suggesting that for the Peruvian case, regulatory requirements tend to discourage companies to invest in the credibility of their sustainability disclosure documents, and promote a symbolic application of sustainability disclosure standards.

Keywords: sustainability reporting quality; mandatory sustainability reporting; corporate social responsibility; CSR in Peru; corporate sustainability in Peru; credibility of sustainability reporting

1. Introduction

Corporate social responsibility and corporate sustainability (CSR) have moved from the margins of academic discussion to the middle of media, corporate boards, and political agendas. In Latin America, this trend followed a particular development, partially because of the heterogeneity of the business sector in the different countries of the region, also because diverse cultural traditions still influence businesses [1]. Recent publications have put in evidence the necessity of more empirical research about CSR related phenomena in the region [1–4]. Especially because CSR research about Latin American companies, published in international academic outlets, has been concentrated in some prominent countries like Brazil [5–10], Mexico [11–16], and Colombia [17].

In Peru, CSR research is manifold. Some studies adopted a theoretical approach to describe this phenomenon, emphasizing the particular characteristics of the Peruvian society and culture [18–21]. Two cultural traditions shaped the praxis of CSR in this country [22–24]. On the one hand, the pre-colonial cultures that included the practice of Andean reciprocity, and a religious relationship with nature, still influence many CSR practices related to environmental issues [23,25,26]. On the other
hand, the heritage of the Catholic Church, and the role of the Catholic social tradition in shaping civil society and its philanthropic activity, influence business and society relationships [27].

Academic literature addressing CSR practices of Peruvian companies is also available. It includes several publications that described successful cases of CSR implementation [28–32]. Additionally, some remarkable studies provided other types of empirical evidence. For example, the contributions of Marquina Feldman and colleagues [33], and Caravedo Molinari [34], presented inter-institutional diagnostics of the social responsibility in Peru, including evidence regarding the social responsibility of the business sector, and other agents as universities, governmental bodies, and nongovernmental organizations. Some studies focused on the CSR of big corporations operating in Peru [23,35], and others researched the social responsibility and sustainability in micro, small, and medium enterprises [36,37].

One of the industrial sectors mainly addressed and contested in Peruvian CSR literature is the mining sector. The research addressing the mining industry focused on the social and environmental impact of national and multinational companies [38–45]. There is also some evidence from the sports industry [46], from the banking sector [47], and some studies oriented towards the analysis of consumer behavior and social responsibility [48].

Beyond attention given to these industrial sectors, the empirical research about CSR in Peru published in international research outlets is scarce. The same regards to the empirical research on sustainability reporting practices of Peruvian companies, except for the studies authored by Hernández-Pajares [49–51]. These studies put in evidence that in the case of Peruvian companies, variables as size, industry, and reporting experience did not necessarily determine sustainability reporting practices between the years 2006 and 2015; instead, they show that the form of ownership is a better determinant of sustainability reporting practices in this country.

Studies exclusively addressing the quality of sustainability reporting practices in Peru are not available. Moreover, a noticeable trend towards the introduction of regulatory requirements for sustainability reporting has been growing all over the world [52–55]. In Peru, new regulatory requirements for sustainability reporting for companies listed in Lima’s Stock Exchange [56] were introduced already in 2015. Despite that four years passed since these new regulatory requirements entered into force, and although these regulations were reviewed and modified in 2019, there is still no empirical evidence available regarding their impact on sustainability reporting quality (SRQ).

To fill this gap, this article analyzes the effects of the introduction of regulatory requirements of sustainability reporting on the SRQ of Peruvian companies. To that aim, this research provides the results of a qualitative content analysis of 81 sustainability disclosure documents published between 2014 and 2016 by 27 companies included in the S&P/BVL Peru General Index of Lima’s Stock Exchange. The findings show constant improvement in SRQ average values over the three analyzed years. Furthermore, after the entry into force of the law, the number of companies providing third-party independent assurance of the information contained in their sustainability reports decreases, diminishing also the credibility of their sustainability disclosure.

The remainder of this article develops a literature review paying particular attention to the influence of regulations establishing mandatory sustainability reporting and their consequences for SRQ. A description of the qualitative content analysis method applied in the research follows the literature review. Then, the presentation of the results and a discussion of them in contrast with the available literature follows. Finally, the article provides some conclusions, as well as further research possibilities.

2. Literature Review

Voluntary sustainability reporting practices have been growing during the last decades [57–61], and in consequence, the academic discussion addressing this phenomenon has proliferated [62,63]. One stream of research developed in this field regards the role of governments in shaping, through public policy, the limits between voluntary and mandatory obligations regarding the disclosure of non-financial information [64] and influencing how companies put sustainability into practice [65–70].
The role of policymaking became more prominent as the implementation of mandatory requirements on sustainability reporting increased in different countries [52–55]. Requiring companies to disclose non-financial information pioneered in South Africa and expanded to many parts of the world, becoming a growing trend [55]. Empirical evidence about the effects of introducing mandatory requirements for sustainability reporting is manifold. Some studies focus on the analysis and financial consequences of mandatoriness [71,72], for example, the results of the study of Ioannou and Serafeim [72] show that in the framework of mandatory sustainability reporting, companies improve their valuation. Another study by Jackson and colleagues demonstrates that after the implementation of regulatory requirements on sustainability reporting, there is an increment of CSR activities performed by companies to address social and environmental issues. This phenomenon, however, is observable only in a short period [73].

There are other plausible, but less researched consequences of mandatory disclosure of sustainability information, for example, transparency, process efficiency, investment signaling, risk management improvement, employer branding, employee retention, reputational growth, and brand value enhancement. However, these potential benefits are in contrast with the increment in costs generated by the compulsory allocation of resources to comply with sustainability reporting obligations. Critical voices argue that increasing regulation does not improve the ethical behavior of companies [74,75]. Thus, whether mandatory sustainability reporting is a mere administrative burden or a potential source of competitive advantage remains an unanswered question [76].

From the societal perspective, making sustainability reporting mandatory could, at least theoretically, contribute to the reduction of information asymmetries [77], but this is only feasible if the reporting practices and the quality of the information disclosed are truthful, credible, and accurate [78]. The research addressing the quality of mandatory sustainability reporting is currently experiencing momentum in Europe after the implementation of the Directive 2014/95/UE that establishes mandatory disclosure of non-financial information for public interest entities, including listed companies with over 500 employees [79,80]. There are some ex-ante studies, as the contributions of Venturelli and colleagues [81,82], as well as Carini and colleagues [83], that explored the potential impact of the EU Directive in Italy, and the researches of Ogrean [84], Szczepankiewicz and Mučko [85], and Dumitr and others [86] examined this same phenomenon in Poland and Romania. After the implementation of the Directive 2014/95/UE by the European country members and the consequent entry into force of obligatoriness, several ex-post studies focusing on sustainability reporting quality appeared; the countries addressed by these studies are mainly Spain [87], Italy [88], Germany [89–92], and Poland [93]. Outside the European continent, the empirical research is also growing, for example, there is empirical evidence from diverse countries as Australia [94], India [95], and Malaysia [96], and there are studies that applied comparative research designs to address several countries at the same time [73,97].

Overall, the empirical evidence does not lead to consensus. According to some studies, the introduction of new regulatory requirements contributes to the improvement of sustainability reporting quality, and others, on the contrary, provide evidence for no effect [78,82,97–100]. There might be at least two reasons explaining this absence of consensus: on the one hand, evidence regarding sustainability reporting practices studied from the institutional theory perspective supports a line of argumentation that proposes that sustainability reporting practices depend on the institutional frameworks in which they are developed [101–105]. Consequently, the design of laws or policies establishing mandatory sustainability reporting might influence in diverse ways the outcomes of sustainability reporting practices.

The laws establishing mandatory sustainability reporting vary from requirements considered soft law [106] following a “one-size-fits-all” approach [73] that rely on the “comply or explain” principle; to harder implementation of laws, as the legislation currently enforced in India where the “comply or explain” principle has been replaced by a “comply or punish” approach [107]. Another reason might be related to the dearth of consensus on the definition and characteristics of quality related to sustainability reporting practices [108,109] and the multiplicity of measurement instruments [110].
These issues, however, are already being addressed by standard setters after the foundation of the Sustainability Accounting Standards Board and might be different in the future [111,112].

In the Peruvian case, the law establishing mandatory sustainability reporting practices applies to all companies listed in Lima’s Stock Exchange and uses the “comply or explain” principle. Accordingly, Peruvian companies are required to disclose information, but they can also decide not to disclose information and explain the reasons for it [56] (Art 1). Additionally, the law provides a concrete number of indicators included in a questionnaire regarding the following topics: standards of sustainability reporting, greenhouse gas emissions, energy consumption, water consumption, waste management, personnel and labor issues, community relations, supply chain management, and clients’ relationships [56] (Art 2, Section A).

Consequently, the Peruvian implementation of mandatory sustainability reporting can be considered, according to Jackson and colleagues [73], a “one-size-fit-all” requirement that generates stringency. Following the seminal typology proposed by Fox and colleagues [113] for the different ways in which the public sector strengthen corporate responsibility, the Peruvian case would be an example of mandated reporting where the state set and ensured compliance with minimum standards. Lastly, it is important to mention that the Peruvian law does not provide any kind of control or enforcement for compliance, and therefore, the independent verification of the information mandatorily disclosed by companies is not explicitly encouraged by the law.

3. Research Methodology

3.1. Research Design

In the absence of previous empirical evidence on SRQ of Peruvian companies, this study adopts an exploratory approach employing qualitative content analysis methods to examine the effects of the introduction of regulatory requirements on sustainability reporting practices. Prior studies employed content analysis to research sustainability reporting practices [78,81,82,87,114–116], to determine sustainability reporting quality [110,117–119], and even for the evaluation of the potential and real influence of regulatory shocks on sustainability reporting quality [82,93,97,120].

The Peruvian legislation that made sustainability reporting mandatory was published in December 2015, but entered into force in 2016. This law required that companies publishing sustainability reports voluntarily before the entering into force of new requirements should make them publicly available with the annual report corresponding to the fiscal year 2015 [56]. Consequently, to explore how SRQ evolves before and after the introduction of regulatory obligations regarding sustainability reporting, the content analysis performed in this study covered three years: 2014, 2015, and 2016.

The obligatoriness introduced with the new Peruvian legislation affected only companies with stocks listed on the Stock Exchange of Lima. However, the content analysis of this study addressed only companies included in the S&P/BVL Peru General Index, which is the main index of Lima’s Stock Exchange. Other studies also addressed companies included in the top indices of stock markets to evaluate sustainability reporting practices [87,97,120].

The instrument developed to measure sustainability reporting quality included 23 binary indicators. It was developed based on the previous academic literature and the obligations imposed by the Peruvian law. The content analysis applied to the sustainability disclosure documents of the companies included in the sample regardless of their publication form: stand-alone reports or integrated reports. The results were analyzed using nonparametric methods to answer the following question: Does sustainability reporting quality improve after the implementation of new regulatory requirements on sustainability reporting for companies included in the S&P/BVL Peru General Index of Lima’s Stock Exchange?

3.2. Sampling Strategy

The sample was constructed selecting companies included in the S&P/BVL Peru General Index (SPBLPGPT) since 2015. This index has 35 constituents, includes the largest and most frequently
traded stocks of Lima’s Stock Exchange in one year, and can be considered a broad benchmark for the Peruvian stock market. The S&P/BVL Peru General Index was launched in 2015 and replaced the index formerly known as the Lima’s Stock Exchange General Index (IGBVL) that included the same number of constituents. The inclusion and exclusion decisions of the S&P/BVL Peru General Index takes place each year in September. The concentration on the top companies of a particular stock market is a common practice in the sustainability reporting research [87,97,120–122]. Moreover, according to Kühn and others [123], companies included in top indices usually present the best practices of reporting because of their legitimation necessities.

The procedure followed can be considered as purposive sampling [124] because the selection of companies was done with the purpose to identify sustainability reports or annual reports containing sustainability disclosure of information so that an evaluation of their quality would be plausible. The following sample inclusion criteria were defined:

- Companies should have stocks listed in Lima’s Stock Exchange during three years (2014–2016).
- Companies should have stocks considered as a constituent of the S&P/BVL Peru General Index at least one year since 2015 (see Appendix A, Table A1 for details).
- Companies made a stand-alone sustainability report or an annual report available for download from one or more of the following sources: corporate website, website of Lima’s Stock Exchange, sustainability disclosure database of the Global Reporting Initiative (GRI).

This procedure was smooth for the year 2016 because companies were already obligated by law to disclose sustainability information by filling a standardized questionnaire and annexing it to the annual report. For the years before the entry into force of the law (2014 and 2015), the situation was different because companies disclosing sustainability information were doing it voluntarily. The final sample included 27 companies for which related observations were possible. Thus, a total of 81 observations were done between 2014 and 2016. The units of analysis for this study were sustainability disclosure documents regardless of the form of disclosure. Stand-alone reports were analyzed first, and when no stand-alone report was available, integrated reports or annual reports were analyzed together with the annexes related to sustainability reporting required by the Peruvian law. Table 1 shows the structure of the sample according to industry affiliation and sustainability reporting form adopted by the companies during the analyzed period (2014–2016).

| Industrial Sector                    | 2014 STA | 2014 INT | 2015 STA | 2015 INT | 2016 STA | 2016 INT |
|--------------------------------------|----------|----------|----------|----------|----------|----------|
| Consumer goods                       | 2        | 1        | 2        | 1        | 2        | 1        |
| Mining and extractive                | 4        | 4        | 4        | 4        | 5        | 3        |
| Energy, utilities, and oil           | 1        | 4        | 1        | 4        | 1        | 4        |
| Finance and insurance                | 3        | 2        | 3        | 2        | 3        | 2        |
| Cement and construction              | 3        | -        | 2        | 1        | 2        | 1        |
| Iron and steel                       | -        | 2        | -        | 2        | 1        | 1        |
| Industrial                           | -        | 1        | -        | 1        | -        | -        |
| Total                                | 13       | 14       | 13       | 14       | 15       | 12       |

Note: Stand-Alone Reports (STA), Integrated or Annual Reports (INT).

3.3. Instrument of Analysis

Currently, there is no instrument, nor scale, widely adopted in the empirical literature to measure SRQ through content analysis. Consequently, an ad hoc evaluation scale was developed. To that aim, the empirical literature on sustainability reporting quality was screened to identify dimensions...
and indicators used for the measurement. The perusal of literature puts in evidence the necessity to address the multidimensionality of quality related to sustainability reports [110,117,118]. Several works of Helfaya and colleagues [110,117,118] show that a multidimensional model that includes indicators related to the content, credibility, and communication of the disclosures is more suitable than unidimensional measures. The final scale adopted for this study included 23 indicators organized into three dimensions of sustainability reporting quality: credibility, content, and communication (see Table 2).

Table 2. Sustainability reporting quality scale (SRQ).

| Quality Dimension | SRQ Indicator |
|------------------|---------------|
| CRE: Standards   | Explicit adoption of external sustainability reporting standards for the elaboration of the sustainability disclosure document [78,97,114,125–129]. |
| CRE: Assurance   | Inclusion of third-party independent assurance of sustainability report or assurance of sustainability information in integrated report [97,114,120,128,130–134]. |
| CRE: Accuracy    | Inclusion of a section with methodological clarifications regarding the sustainability disclosure document [78]. |
| CRE: Materiality | Inclusion of a materiality analysis in sustainability disclosure document [88,89,97,112,133,136]. |
| CRE: Stakeholder dialogue | Evidence of stakeholder dialogue in sustainability disclosure document [97,104,137–139]. |
| CRE: Stakeholder engagement | Evidence of stakeholder engagement including a description of the instruments used for different stakeholders [97,104,138–141]. |
| CRE: Top management | Inclusion of a top management statement in stand-alone reports or reference to sustainability in top management statements of integrated reports [81,82,97,119,142,143]. |
| CRE: Strategy    | Description of a sustainability policy or sustainability strategy in sustainability disclosure document [81,82,97,143,144]. |
| CRE: Governance  | Existence of a sustainability governance entity in the organizational structure [122,126,132,145]. |
| CON: Environment | Disclosure of Greenhouse Gas Emissions in sustainability disclosure document [56,81,82,144]. |
| CON: Environment | Disclosure of energy consumption in sustainability disclosure document [56,81,82,144]. |
| CON: Environment | Disclosure of water consumption in sustainability disclosure document [56,81,82,144]. |
| CON: Environment | Disclosure of waste management in sustainability disclosure document [56,81,82,144]. |
| CON: Social      | Disclosure of information regarding social issues in sustainability disclosure document [56,81,82,144]. |
| CON: Social      | Disclosure of information regarding personnel and labor issues in sustainability disclosure document [56,81,82,144]. |
| CON: Social      | Disclosure of information regarding community relations in sustainability disclosure document [56,81,82,144]. |
| CON: Socio-economic | Disclosure of information regarding suppliers in sustainability disclosure document [56,81,82,144]. |
| CON: Socio-economic | Disclosure of information regarding clients in sustainability disclosure document [56,81,82,144]. |
| CON: Social      | Disclosure of information regarding human rights issues in sustainability disclosure document [56,81,82,144]. |
| CON: Social      | Disclosure of information regarding anti-corruption and bribery issues [56,81,82,144]. |
| COM: Communication | Inclusion of tables in sustainability disclosure document [110,117,118]. |
| COM: Communication | Inclusion of graphs in sustainability disclosure document [110,117,118,146]. |
| COM: Communication | Inclusion of pictures/images in sustainability disclosure document [110,117,118]. |

Notes: Credibility (CRE), Content (CON), Communication (COM).

To measure credibility, indicators related to the adoption of sustainability disclosure standards, disclosure assurance, reporting accuracy, materiality analysis, stakeholder dialogue, stakeholder engagement, top management disclosure, sustainability policy, and sustainability governance were considered. Credibility has been researched with these indicators in previous studies (see Table 2 for references related to each indicator). Adopting them contributes to the comparability of results and replicability of methodology in future studies.
For the definition of indicators related to the contents dimension, previous research (see Table 2 for references related to each indicator), and the Peruvian law on sustainability reporting was used as input. This was a necessary step to ensure that the pretest-posttest performed with the data, allows making conclusions related to the implementation of the Peruvian regulatory requirements. Finally, for the communication dimension, three indicators proposed by Helfaya and colleagues [110] were considered.

Following the available literature on disclosure’s quality applied to environmental disclosure [114], labor disclosure [125], and sustainability disclosure quality [78,97,120], the 23 indicators included in the SRQ scale were considered dichotomic indicators in the assessment of the sustainability disclosure documents. Taking into consideration the explorative nature of this study, employing dichotomic measures to allow replicability and to reduce the potential bias of subjectivity was a priority. Following this approach has the limitation of not capturing the nuances of disclosure in terms of disclosure extension, e.g., volume of text dedicated to one sustainability issue, and directionality, e.g., whether the company discloses positive or negative information about their performance. However, the SRQ scale developed and applied in this study has the potential to be easily replicable and provides us with the first measure of sustainability reporting quality about Peruvian companies.

The calculation of SRQ value for each observation followed the structure of the multidimensional quality model proposed by Helfaya and Whittington [110,118]. These authors propose a weighted multidimensional quality model, attributing a weight of 56% to content, 31% to credibility, and 13% to communication [110,118]. In the present study, however, all the components of the multidimensional quality model have the same weights, relying on the assumption that the three dimensions (credibility, content, and communication) contribute equally to SRQ.

\[
SRQ_i = \sum (Credibility_i + Content_i + Communication_i),
\]

\[
SRQ_i = \left[\left(\frac{\sum Credibility \text{ indicators}_i}{9}\right) + \left(\frac{\sum Content \text{ indicators}_i}{11}\right) + \left(\frac{\sum Communication \text{ indicators}_i}{3}\right)\right].
\]

After the application of the SRQ scale, reliability tests were performed. The results of Cronbach’s alpha showed values above 0.8 for the SRQ scale in the three analyzed years. These results confirmed the reliability of the instrument used. Similarly, the Cronbach’s alpha values for the different subscales were mostly satisfactory, because in the communication subscale’s case, the Cronbach’s alpha values were below 0.8 for 2015 and 2016. Table 3 summarizes the results of the reliability tests performed for the SRQ scale and subscales.

| Number of Indicators | 2014 (N = 27) | 2015 (N = 27) | 2016 (N = 27) |
|----------------------|---------------|---------------|---------------|
| SRQ                  | 23            | 0.952         | 0.945         | 0.908         |
| Credibility          | 9             | 0.925         | 0.919         | 0.903         |
| Content              | 11            | 0.809         | 0.899         | 0.806         |
| Communication        | 3             | 0.821         | 0.612         | 0.532         |

3.4. Data Collection and Analysis

Data were collected during the months of June and August 2019. For the identification of sustainability disclosure documents, three different sources of information were consulted: corporate websites, the Lima’s Stock Exchange website, and the sustainability disclosure database of the GRI. According to the meta-analysis of Fifka [62], and the literature review of Hahn and Kühnen [63], there are some known determinants of sustainability reporting, for example, size, profitability, and industry affiliation. Accordingly, information regarding potential determinants identified in previous literature as industry affiliation [62,63,115,147,148], environmental-sensitive industries [78], and membership to transnational groups [51] was collected and considered in the analysis.

After the collection of the sustainability disclosure documents was completed, and before the application of the SRQ scale to the sustainability disclosure documents of the companies included in
the sample, a pilot study of 10 companies not included in the sample was made to test the consistency of the content analysis [149,150]. This pilot study provided relevant information to define the scale indicators clearly. The final scale that included 23 indicators (presented in Table 2) was applied to the sustainability disclosure documents collected comprising stand-alone reports and integrated reports published in 2014, 2015, and 2016. To guarantee the replicability of content analysis, Krippendorff [151] (p. 129) recommends reporting specific information of the person involved in coding and analyzing data. In this case, one person with postgraduate studies in management and CSR evaluated the sustainability disclosure documents. The coder has more than ten years of experience in business research and teaching, as well as consultancy experience in strategic implementation of sustainability in business, including sustainability reporting processes. Moreover, the evaluator was a Spanish native speaker, which was relevant for the coding process because the sustainability disclosure documents analyzed were published mostly in Spanish.

To guarantee the reliability of the data collected, the assessments of the sustainability disclosure documents were done twice, leaving one month between test and retest. The stability of the outcomes was confirmed following this procedure, as suggested by Krippendorff [151]. All intra-observer disagreements or inconsistencies were resolved case-by-case.

4. Results and Discussion

The principal goal of this study was to explore the effects on sustainability reporting quality derived from the introduction of regulatory requirements for publication of sustainability reporting documents applicable to Peruvian listed companies. In this section, the results of the study are presented and discussed.

4.1. Descriptive Statistics

Table 4 reports the descriptive statistics of SRQ scores for Peruvian companies included in the sample. The frequencies distribution shows that the indicator with the lowest score refers to the inclusion of third-party independent assurance of sustainability disclosure. Only 16% of the sustainability disclosure documents include an assurance letter. Here, it is important to mention that in the case of integrated reports, assurance letters were scrutinized to evaluate if they assured the sustainability disclosures besides the financial statements.

Moreover, the two years previous to the entry into force of mandatory sustainability reporting in Peru, there were more reports assured then after reporting became mandatory (22% for 2014 and 15% for 2015 > 11% for 2016). This result contrasts with the fact that 60% of the reports adopt standards of sustainability reporting and support the argument of Michelon and colleagues [119], affirming that in absence of third-party independent assurance of the information disclosed, the usage of sustainability reporting standards is symbolic.

Following Lock and Seele [78], Habek and Wolniak [99], and Chauvey and colleagues [127], these results also indicate a reduced credibility of the reports included in the sample. Whether if these outcomes emerge from the introduction of mandatoriness or relate to the particular characteristics of the Peruvian regulatory requirements, is an issue that requires a deeper analysis. So, it is plausible to assert that the characteristics of the regulatory requirements enforced in Peru discourage companies to invest in the credibility of their sustainability disclosure documents because compliance with the law is considered an administrative burden. Nevertheless, to confirm this explanation, another type of empirical evidence is required.
Table 4. Frequency table of sustainability reporting quality indicators of Peruvian companies included in the S&P/BVL Peru General Index (2014–2016).

| SRQ Indicators                  | 2014 | 2015 | 2016 | Total |
|--------------------------------|------|------|------|-------|
| f                             | f/n  | f    | f/n  |       |
| SRQ01 Sustainability reporting standards | 16   | 0.59 | 16   | 0.59  | 17   | 0.63 | 0.60 |
| SRQ02 Independent assurance    | 6    | 0.22 | 4    | 0.15  | 3    | 0.11 | 0.16 |
| SRQ03 Methodological section   | 14   | 0.52 | 17   | 0.63  | 18   | 0.67 | 0.60 |
| SRQ04 Materiality analysis     | 12   | 0.44 | 13   | 0.48  | 18   | 0.63 | 0.52 |
| SRQ05 Stakeholder dialogue     | 18   | 0.67 | 17   | 0.63  | 20   | 0.74 | 0.68 |
| SRQ06 Stakeholder engagement   | 12   | 0.44 | 12   | 0.44  | 12   | 0.44 | 0.44 |
| SRQ07 Top management statement | 20   | 0.74 | 21   | 0.78  | 24   | 0.89 | 0.80 |
| SRQ08 Sustainability policy or strategy | 18   | 0.67 | 18   | 0.67  | 24   | 0.89 | 0.74 |
| SRQ09 Sustainability governance| 11   | 0.41 | 13   | 0.48  | 14   | 0.52 | 0.47 |
| SRQ10 Greenhouse Gas Emissions | 15   | 0.56 | 18   | 0.67  | 20   | 0.74 | 0.65 |
| SRQ11 Energy consumption       | 18   | 0.67 | 20   | 0.74  | 23   | 0.85 | 0.75 |
| SRQ12 Water consumption        | 16   | 0.59 | 21   | 0.78  | 20   | 0.74 | 0.70 |
| SRQ13 Waste management         | 23   | 0.85 | 24   | 0.89  | 24   | 0.89 | 0.88 |
| SRQ14 Social issues            | 25   | 0.93 | 24   | 0.89  | 26   | 0.96 | 0.93 |
| SRQ15 Personnel and labor issues | 25   | 0.93 | 26   | 0.96  | 26   | 0.96 | 0.95 |
| SRQ16 Community relations      | 24   | 0.89 | 24   | 0.89  | 26   | 0.96 | 0.91 |
| SRQ17 Suppliers relations      | 29   | 0.70 | 28   | 0.67  | 24   | 0.89 | 0.75 |
| SRQ18 Clients relations        | 20   | 0.74 | 22   | 0.81  | 23   | 0.85 | 0.80 |
| SRQ19 Human rights issues      | 13   | 0.48 | 15   | 0.56  | 17   | 0.63 | 0.56 |
| SRQ20 Anti-corruption and bribery | 15   | 0.56 | 15   | 0.56  | 14   | 0.52 | 0.54 |
| SRQ21 Inclusion of tables      | 26   | 0.96 | 27   | 1.00  | 27   | 1.00 | 0.99 |
| SRQ22 Inclusion of graphs      | 21   | 0.78 | 23   | 0.85  | 25   | 0.93 | 0.85 |
| SRQ23 Inclusion of pictures and images | 21   | 0.78 | 20   | 0.74  | 22   | 0.81 | 0.78 |

Note: Frequency (f); relative frequency (f/n).

4.2. Mean Comparisons

The mean comparison of SRQ for three years, two years previous to the implementation of the law (2014, 2015), and one year after entry into force of the law on mandatory sustainability reporting (2016) presented in Table 5, revealed a constant increase in the mean of SRQ scores from year to year. This finding suggests that for the companies included in the sample, their improvement on SRQ takes place regardless of the introduction of regulatory requirements. This result appears to be in line with studies that suggest that top companies seem to react to isomorphic pressures different from the regulatory variations that establish mandatory sustainability reporting [152].

Table 5. Sustainability reporting quality of Peruvian companies of the S&P/BVL Peru General Index (2014–2016).

| Year  | N   | Min  | Max  | Mean  | Std Dev. |
|-------|-----|------|------|-------|----------|
| 2014  | 27  | 0.20 | 3.00 | 2.0793| 0.89766  |
| 2015  | 27  | 0.61 | 3.00 | 2.1676| 0.79034  |
| 2016  | 27  | 1.17 | 3.00 | 2.3449| 0.59493  |

Note: The 27 companies analyzed each year allowed to make three related observations for each company.

Table 6 presents a constant improvement in SRQ scores, observable even for its three dimensions: credibility, content, and communication. It is also worth noticing that the credibility dimension of SRQ reports the lowest scores for all the years analyzed.
Table 6. Dimensions of sustainability reporting quality of Peruvian companies of the S&P/BVL Peru General Index (2014–2016).

| Year | Credibility | Content | Communication | SRQ  |
|------|-------------|---------|---------------|------|
| 2014 | 0.5226      | 0.7172  | 0.8395        | 2.0793 |
| 2015 | 0.5391      | 0.7643  | 0.8642        | 2.1676 |
| 2016 | 0.6132      | 0.8182  | 0.9136        | 2.3449 |

Note: SRQ = Sustainability reporting quality.

A disaggregated comparison of the mean values of SRQ according to the reporting form (see Table 7) shows that for all the years, SRQ is higher for stand-alone reports than for integrated reports. This finding could support the opinions of some critical voices raised towards integrated reports as outlets for sustainability disclosure [153]. Moreover, while the improvement in SRQ means is yearly constant for integrated reports, in the case of stand-alone reports, the SRQ mean decreases after the implementation of the law (2.6020 for 2016 < 2.6426 for 2015). This result contrasts with the evidence provided by Michelon and colleagues [119] as well as Chauvey and colleagues [127] that were not able to find particular relationship between the forms adopted for sustainability disclosure and SRQ.

Table 7. Sustainability reporting quality and reporting form, industry affiliation, and membership to international groups of Peruvian companies of the S&P/BVL Peru General Index (2014–2016).

|                  | 2014     | 2015     | 2016     | Total |
|------------------|----------|----------|----------|-------|
|                  | N  | Mean    | N  | Mean    | N  | Mean    | N  | Mean    |
| Reporting form   |    |         |    |         |    |         |    |         |
| Stand-alone      | 13 | 2.6107  | 13 | 2.6426  | 15 | 2.6020  | 41 | 2.6184  |
| Integrated       | 14 | 1.5859  | 14 | 1.7266  | 12 | 2.0236  | 40 | 1.7787  |
| Industry affiliation |        |         |        |         |        |         |        |
| Mining industry  | 8  | 2.0884  | 8   | 2.3371  | 8   | 2.5859  | 24  | 2.3371  |
| Finance and insurance | 5   | 2.2162  | 5   | 2.1535  | 5   | 2.3192  | 15  | 2.2296  |
| Energy, electricity, and oil | 10  | 2.0828  | 10  | 2.0414  | 10  | 2.3394  | 30  | 2.1345  |
| Other industries | 4  | 1.8813  | 4   | 2.1616  | 4   | 1.9091  | 12  | 1.9840  |
| Environmentally-sensitive industry |        |         |        |         |        |         |        |
| Yes              | 18 | 2.0595  | 18  | 2.1717  | 18  | 2.4416  | 54  | 2.2242  |
| No               | 9  | 2.0892  | 9   | 2.1594  | 9   | 2.1515  | 27  | 2.1333  |
| Membership of transnational groups |        |         |        |         |        |         |        |
| Domestic company | 14 | 2.1962  | 14  | 2.2734  | 14  | 2.4221  | 42  | 2.2972  |
| International company | 13  | 1.9534  | 13  | 2.0536  | 13  | 2.2618  | 39  | 2.0896  |

Industry affiliation is recurrently recognized as a determinant of sustainability reporting quality [62,63]. Empirical evidence often proposes that companies belonging to environmental-sensitive industries have greater quantity and better quality of sustainability disclosure [78,147,148,154]. In this regard, the findings presented in Table 6 evidence that companies belonging to the mining, finance, insurance, energy, electricity, and oil industries improve their SRQ score after the implementation of mandatory sustainability reporting. If industries are grouped according to their environmental impact following the categorization proposed by Lock and Seele [78], the outcomes show that the SRQ mean scores for environmental-sensitive industries improves (\(\Delta 2016 - 2015 = 0.2699\)) and for non-environmental-sensitive industries decreases (\(\Delta 2016 - 2015 = -0.0079\)).

Sustainability reporting research of Peruvian companies showed previously that the membership of companies to transnational groups is a better determinant of reporting [49–51]. The results, however, show a constant improvement of sustainability reporting quality regardless of the membership to transnational groups for companies included in the sample.
4.3. SRQ before and after The Implementation of New Regulatory Requirements

To evaluate if the differences in means and other results found previously were significant, further statistical analysis was required. After testing the distribution of the SRQ scores for normality and finding that the distribution of the SQR scores was not normal, the decision for nonparametric statistical analysis was done.

As presented in Table 8, the first analysis done was the sign test, which reveals the irregular behavior of some companies. Table 9 presents a summary of the variations in SRQ scores for the period between 2014 and 2016. It shows that nine companies decrease in their SRQ score after the implementation of mandatory sustainability reporting in Peru. Counterintuitively, the introduction of new regulatory requirements generates an average improvement of SRQ, but at the same time discourages some companies to continue improving their sustainability reporting practices.

| Company | SRQ 2014 | SRQ 2015 | SRQ2016 | ∆ 2015–2014 | ∆ 2016–2015 | ∆ 2016–2014 |
|---------|----------|----------|---------|-------------|-------------|-------------|
| PE01    | 2.4141   | 1.3838   | 1.2020  | −1.0303     | −0.1818     | −1.2121     |
| PE02    | 1.7677   | 1.7879   | 1.6768  | 0.0202      | −0.1111     | −0.0909     |
| PE03    | 0.2020   | 2.2424   | 1.7273  | 2.0404      | −0.5152     | 1.5253      |
| PE04    | 3.0000   | 3.0000   | 3.0000  | 0.0000      | 0.0000      | 0.0000      |
| PE05    | 3.0000   | 2.5556   | 2.6667  | −0.4444     | 0.1111      | −0.3333     |
| PE06    | 0.6970   | 0.8081   | 1.5455  | 0.1111      | 0.7374      | 0.8485      |
| PE07    | 2.8182   | 2.8889   | 2.8889  | 0.0707      | 0.0000      | 0.0707      |
| PE08    | 2.7778   | 2.7778   | 2.6869  | 0.0000      | −0.0909     | −0.0909     |
| PE09    | 0.9899   | 1.6768   | 1.7879  | 0.8689      | 0.1111      | 0.7980      |
| PE10    | 2.6667   | 2.8889   | 2.7778  | 0.2222      | −0.1111     | 0.1111      |
| PE11    | 1.2020   | 1.1818   | 2.7980  | −0.0202     | 1.6162      | 1.5960      |
| PE12    | 2.5556   | 2.1111   | 2.4848  | −0.4444     | 0.3737      | −0.0707     |
| PE13    | 0.7879   | 0.6970   | 1.2626  | −0.0909     | 0.5657      | 0.4747      |
| PE14    | 2.4444   | 2.4444   | 2.4848  | 0.0000      | 0.0404      | 0.0404      |
| PE15    | 1.6566   | 1.7273   | 2.2424  | 0.0707      | 0.5152      | 0.5859      |
| PE16    | 2.7778   | 2.7778   | 2.6667  | 0.0000      | −0.1111     | −0.1111     |
| PE17    | 2.7071   | 2.7980   | 2.7980  | 0.0909      | 0.0000      | 0.0909      |
| PE18    | 0.9899   | 0.8990   | 1.1717  | −0.0909     | 0.2727      | 0.1818      |
| PE19    | 2.7071   | 2.8889   | 2.7980  | 0.1818      | −0.0909     | 0.0909      |
| PE20    | 2.5556   | 1.9495   | 1.8384  | −0.6061     | −0.1111     | −0.7172     |
| PE21    | 2.8889   | 2.8889   | 2.5758  | 0.0000      | −0.3131     | −0.3131     |
| PE22    | 2.6162   | 2.6162   | 2.7071  | 0.0000      | 0.0909      | 0.0909      |
| PE23    | 0.5152   | 0.6061   | 2.7980  | 0.0909      | 2.1919      | 2.2828      |
| PE24    | 2.8889   | 2.8889   | 2.8889  | 0.0000      | 0.0000      | 0.0000      |
| PE25    | 3.0000   | 3.0000   | 3.0000  | 0.0000      | 0.0000      | 0.0000      |
| PE26    | 2.1313   | 2.2424   | 2.0404  | 0.1111      | −0.2020     | −0.0909     |
| PE27    | 1.3838   | 2.7980   | 2.7980  | 1.4141      | 0.0000      | 1.4141      |

Note: The companies have been anonymized in this table, but the list of companies analyzed is provided in the Appendix A, Table A1.

Table 9. Variations on sustainability reporting quality of companies included in the S&P/BVL Peru General Index (2014–2016).

| Effect      | ∆ 2015–2014 | ∆ 2016–2015 | ∆ 2016–2014 |
|-------------|-------------|-------------|-------------|
| SRQ increases| 12          | 11          | 15          |
| SRQ decreases| 7           | 10          | 9           |
| No change in SRQ | 8           | 6           | 3           |

Note: SRQ = Sustainability reporting quality.
One reason for the previous outcome could be related to the indicator SRQ02, which is a credibility indicator that measures the inclusion of third-party independent assurance of sustainability disclosure. The indicator SRQ02 shows the lowest frequencies and is the only indicator decreasing from 2014 to 2016 (see Table 4). The changes in SRQ02 reveals the decision of some companies against the external third-party independent verification of their sustainability disclosure documents. This outcome is paradoxical because while improving sustainability reporting quality, companies decrease their investment in credibility. This finding supports the argumentation of Michelon [119], who affirms that in the absence of assurance of the sustainability disclosure, the usage of sustainability reporting standards becomes merely symbolic.

Once again, a potential explanation for this outcome could rely on the content of the law and in the implementation of mandatoriness in Peru. This outcome differs from the evidence provided by Mion and Loza Adaui [97] about top companies from Germany and Italy, where the credibility dimension of SRQ increased after the implementation of the European Directive 2014/65/EU on non-financial disclosure of information. Thus, different laws and, consequently, different institutional frameworks have different effects on SRQ.

Wilcoxon signed-rank tests were conducted to evaluate if the differences in SRQ means were statistically relevant, and the results are presented in Table 10. However, no significant differences were found at a $p < 0.05$; consequently, it is not possible to affirm that the mean differences identified in the mean comparisons presented in the previous section are significant. Considering a $p < 0.1$, the differences for the SRQ mean values of the energy, electricity, and oil industry ($Z = -1.680$, $p < 0.1$), and for the SRQ values of other industries ($Z = -1.826$, $p < 0.1$) were significant.

| Table 10. Sustainability reporting quality and reporting form, industry affiliation, and membership to international groups of Peruvian companies of the S&P/BVL Peru General Index (2014–2016). |
|-------------------------------------------------|
| **Industry affiliation** |
| Mining industry | $\Delta$ 2015–2014 | 2016–2015 | 2016–2014 |
| Finance and insurance | 0.000 | 0.357 | 0.357 | 0.384 |
| Energy, electricity, and oil | $-0.682$ | $-1.680$ | 0.093 | $-1.378$ | 0.168 |
| Other industries | $-0.535$ | 0.593 | $-1.826$ | 0.068 | $-0.365$ | 0.715 |

| Environmentally-sensitive industry |
|-----------------------------------|
| Yes | $\Delta$ 2015–2014 | 2016–2015 | 2016–2014 |
| No | $-0.508$ | 0.611 | $-0.593$ | 0.553 | $-0.142$ | 0.887 |

| Membership of transnational groups |
|-------------------------------------|
| Domestic company | $-0.102$ | 0.308 | $-0.463$ | 0.643 | $-0.809$ | 0.419 |
| International company | $-0.178$ | 0.858 | $-0.845$ | 0.398 | $-1.156$ | 0.248 |

Note: * significant at $p < 0.10$.

If industry affiliation is divided into environmental-sensitive or not-environmental-sensitive, the increment in SRQ scores for companies that belong to environmental-sensitive industries appears significant at $p < 0.10$ ($Z = -1.733$) for the difference between the SRQ scores from 2014 compared with the SRQ scores form 2016. This outcome is in line with other studies affirming that companies belonging to environmental-sensitive industries show higher quantity and better quality of sustainability reporting [78]. For the variables’ membership to transnational groups and reporting form, the Wilcoxon signed-rank test does not show significant values.
4.4. Trajectories of SRQ Dimensions before and after The Implementation of New Regulatory Requirements

As presented in Table 11, it was also possible to observe the development of the different SRQ dimensions according to the industry of affiliation of the companies analyzed. The credibility of SRQ increases from 2014 to 2016 for the mining, finance, and insurance industries, but none of these variations result significant after the Wilcoxon analysis. Surprisingly, in the case of the electricity, and oil industries, the credibility dimension of SRQ decreases from 2014 to 2015, showing even statistically significant values at \( p < 0.05 \) (\( Z = -2.0 \)) according to the Wilcoxon analysis. This outcome does not replicate for the changes observed between the years 2015 and 2016. Additionally, in the case of other industries, there is a yearly decrease in the dimension of credibility from 2014 to 2016. These results suggest that the credibility dimension of SRQ evolves differently in diverse industries, and probably new regulatory requirements influence, in different ways, diverse industries, too. Thus, the findings support the arguments against regulatory frameworks of the “one-fits-all” kind [113] as the one applied in Peru.

Table 11. Comparison of the dimensions of sustainability reporting quality of Peruvian companies of the S&P/BVL Peru General Index (2014–2016) by diverse variables.

| Industry Affiliation | Mining Industry (N = 8) | Finance and Insurance (N = 9) | Energy, Electricity, and Oil (N = 10) | Other Industries (N = 4) |
|----------------------|-------------------------|------------------------------|-------------------------------------|--------------------------|
|                      | CRE                     | COM                          | CRE                                | COM                       |
| 2014                 | 0.5278                  | 0.7273                       | 0.8334                             | 0.8667                    |
| 2015                 | 0.6667                  | 0.7955                       | 0.8750                             | 0.8000                    |
| 2016                 | 0.7639                  | 0.8636                       | 0.9583                             | 0.8667                    |
| \( \Delta 2014-2015 \) | 0.1389                  | 0.0682                       | 0.0417                             | 0.0367                    |
| \( p \)              | 0.109                   | 0.588                        | 0.655                              | 0.317                     |
| \( Z \)              | -1.604                  | -0.542                       | -0.447                             | -1.000                    |
| 2015–2016            | 0.0972                  | 0.0681                       | 0.0833                             | 0.0454                    |
| \( p \)              | 0.705                   | 0.655                        | 0.317                              | 0.317                     |
| \( Z \)              | -0.378                  | -0.447                       | -1.000                             | -1.000                    |
| \( \Delta 2014-2016 \) | 0.2361                  | 0.1363                       | 0.125                              | 0.0667                    |
| \( p \)              | 0.104                   | 0.416                        | 0.276                              | 0.414                     |
| \( Z \)              | -1.625                  | -0.813                       | -1.089                             | -0.816                    |

| Environmentally-Sensitive Industry | Membership of Transnational Groups |
|------------------------------------|-----------------------------------|
| Yes (N = 18)                       | No (N = 9)                        |
| Domestic Company (N = 14)          | International Company (N = 13)    |
| CRE                                 | COM                               | CRE                                | COM                       |
| 2014                                | 0.5000                            | 0.7734                            | 0.8519                    |
| 2015                                | 0.5370                            | 0.7828                            | 0.8519                    |
| 2016                                | 0.6605                            | 0.8737                            | 0.9704                    |
| \( \Delta 2014-2015 \)             | 0.0370                            | 0.0454                            | 0.0505                    |
| \( p \)                            | 0.726                              | 0.325                             | 0.054                     |
| \( Z \)                            | -0.351                            | -0.984                            | -0.184                    |
| \( \Delta 2015-2016 \)             | 0.1235                            | 0.0909                            | 0.0555                    |
| \( p \)                            | 0.126                              | 0.239                             | 0.180                     |
| \( Z \)                            | -1.531                            | -1.178                            | -1.342                    |
| \( \Delta 2014-2016 \)             | 0.1605                            | 0.1363                            | 0.0555                    |
| \( p \)                            | 0.060                              | 0.147                             | 0.276                     |
| \( Z \)                            | -1.879                            | -1.451                            | -0.816                    |

Note: Credibility (CRE), Content (CON), Communication (COM), * significant at \( p < 0.05 \), ** significant at \( p < 0.10 \).

In the case of the communication dimension of SRQ, there is also a particular outcome. For the finance, insurance, energy, electricity, and oil industries, the SRQ value decreases from 2014 to 2015. These outcomes, however, do not reveal statistically significant after the Wilcoxon analysis.

After dividing the sample of companies into environmental-sensitive industries and non-environmental-sensitive industries [78], the dimension of credibility shows intragroup opposite trajectories. While in the case of environmental-sensitive industries, the SRQ improves yearly, showing
even significant values at $p > 0.1$ ($Z = 1.879$) between 2014 and 2016. The credibility of the SRQ of companies from non-environmental-sensitive industries decreases year by year. This outcome supports the evidence showing that companies belonging to environmental-sensitive industries invest more in credibility to reach legitimacy in the public sphere. In opposition, even after the legal imposition of sustainability disclosure, companies that do not belong to environmental-sensitive industries can even reduce their efforts to enhance the credibility of their sustainability disclosure.

A comparison of the changes in the different SRQ dimensions, according to the membership of companies to international groups shows that all the SRQ dimensions improve from 2014 to 2016. This finding applies to both domestic and international companies. Among the three SRQ dimensions, the credibility dimension shows the lowest mean values (for example, domestic companies show in 2014 the following mean values CRE $0.6032 <$ CON $0.6883 <$ COM $0.9048$). The previous outcome is recurrent from 2014 to 2016.

Overall, Table 11 puts in evidence that the different dimensions of SRQ measured follow different trajectories over time. This study shows that companies from different industries react differently to regulatory shocks, especially regarding their efforts to grant credibility to their sustainability disclosure documents. This outcome is relevant for the design of regulations on mandatory sustainability reporting. Putting into question the “one-fits-all” approach adopted in Peru and suggesting specialized regulatory frameworks for different industries. To confirm these results, however, more research is needed with sample sizes that allow a more detailed comparison of sustainability disclosure from companies belonging to different industries.

Moreover, if other studies confirm the previous outcomes, then the relationship between the credibility of sustainability disclosure documents, and the mechanisms implemented by regulatory bodies for law enforcement becomes a relevant research issue. This appears to be particularly relevant in developing countries where institutional frameworks are weaker, but it is also relevant for developed countries to evaluate the effectiveness of policymaking efforts and its consequences for companies and markets.

5. Conclusions and Limitations

The goal of this research was to explore the effects of a regulatory shock that made sustainability reporting mandatory in Peru during the years 2015 and 2016 on SRQ. Peruvian companies included in the S&P/BVL Peru General Index of Lima’s Stock Exchange since 2015 were selected for the analysis. A total of 81 sustainability disclosure documents published between 2014 and 2016 by 27 companies were examined employing qualitative content analysis. The scale developed for the study addressed SRQ from three different dimensions: credibility, content, and communication.

One of the benefits of this research relies on the institutional setting in which the question is studied; this study is the first addressing and delivering empirical evidence regarding SRQ from Peruvian companies. Hence, the study adds context to the discussion, which has been so far centered on European and developed countries. However, the methodological design induces replicability, and an easy application to other institutional settings. Therefore, the methodological design of this study is transferable to other countries, and the outcomes are comparable to studies realized in developed countries.

The results evidence an improvement of SRQ scores over the three years analyzed regardless of the changes that happened on sustainability reporting legislation. Therefore, in contrast to evidence from other studies applied in Europe, no evidence for the impact of new legislation on SRQ is found in Peru. Moreover, after the entry into force of the obligatoriness, the number of companies providing third-party independent assurance of the information contained in the sustainability disclosure documents decreases, suggesting that in the Peruvian case, the new regulations discouraged some companies to invest in the credibility of their sustainability disclosure documents and potentially promote a symbolic application of sustainability disclosure standards.
A consequence and future research questions opened by these outcomes relate to the effectiveness of different laws for the enhancement of credibility of sustainability reporting in times of mandatory disclosure. In this sense, an implication for policymakers regards the improvements in the design of laws and regulatory requirements so that the credibility of sustainability reporting could be promoted and improved. The same applies to business decision-makers willing to face the challenges of credibility of their sustainability reporting practices in times of mandatoriness.

Although major efforts have been done to explore the consequences of mandatory sustainability reporting laws on SRQ of Peruvian companies, the study has also some limitations. This study could be improved by enlarging the sample size, including Peruvian companies that are not affected by the regulatory shock experienced by the stock listed companies. Further studies could include other variables in the study as potential determinants of SRQ, for example, the media visibility, governance structure, the board composition, and the years of experience with sustainability reporting, etc. Moreover, more sophisticated measurement scales can be developed to analyze more in depth the quality of sustainability disclosures in terms of disclosure extension and directionality.

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**Appendix A**

| Company  | 2015 | 2016 | 2017 | 2018 | Included in Sample |
|----------|------|------|------|------|-------------------|
| Alicorp  | Yes  | Yes  | Yes  | Yes  | Yes               |
| Andino Investment Holding | No   | Yes  | Yes  | Yes  | Yes               |
| Austral Grupo | Yes  | Yes  | Yes  | Yes  | Yes               |
| Banco Continental | Yes  | Yes  | Yes  | Yes  | Yes               |
| Banco de Crédito del Perú | No   | Yes  | No   | No   | Yes               |
| Bolsa de Valores de Lima | No   | Yes  | Yes  | Yes  | Yes               |
| Candente Copper Corporation | No   | Yes  | Yes  | Yes  | No                |
| Casa Grande | Yes  | Yes  | Yes  | Yes  | No                |
| Cementos Lima (UNACEM) | Yes  | Yes  | Yes  | Yes  | Yes               |
| Cementos Pacasmayo | Yes  | Yes  | Yes  | Yes  | Yes               |
| Compañía de Minas Buenaventura | Yes  | Yes  | Yes  | Yes  | Yes               |
| Compañía Minera Atacocha | Yes  | Yes  | Yes  | Yes  | Yes               |
| Compañía Minera Milpo (NEXA) | Yes  | Yes  | Yes  | Yes  | Yes               |
| Corporación Acero Arquima | Yes  | Yes  | Yes  | Yes  | Yes               |
| Credicorp Limited | Yes  | Yes  | Yes  | Yes  | No                |
| EDEGEL (Enel Generación) | Yes  | Yes  | Yes  | Yes  | Yes               |
| Empresa Agroindustrial Pomalca | Yes  | Yes  | Yes  | No   | No                |
| Empresa Siderúrgica del Perú (SIDER) | No   | Yes  | Yes  | Yes  | Yes               |
| Enel Distribución Perú (EDELNOR) | Yes  | Yes  | Yes  | Yes  | Yes               |
| Engie Energía Perú (ENERSUR) | Yes  | Yes  | Yes  | Yes  | Yes               |
| Ferreyros | Yes  | Yes  | Yes  | Yes  | Yes               |
| Graña y Montero | Yes  | Yes  | Yes  | Yes  | Yes               |
| InRetail Peru Corporation | Yes  | Yes  | Yes  | Yes  | No                |
| Intercorp Financial Services | Yes  | Yes  | Yes  | Yes  | No                |
| Inversiones Centenario | Yes  | Yes  | Yes  | Yes  | No                |
| Luz del Sur | Yes  | Yes  | Yes  | Yes  | Yes               |
| Minera IRL | Yes  | No   | No   | No   | No                |
| Minsur | Yes  | Yes  | Yes  | Yes  | Yes               |
| Morococha (SIMSA) | No   | No   | No   | No   | No                |
| Panoro Minerals Ltd. | Yes  | Yes  | Yes  | Yes  | No                |
| PXP Mining Corp | No   | Yes  | Yes  | Yes  | No                |
| Refinería La Pampilla (RELAPSA) | Yes  | Yes  | Yes  | Yes  | Yes               |
| Rimac-Internacional | No   | Yes  | Yes  | Yes  | Yes               |
| Sociedad Minera Cerro Verde | Yes  | Yes  | Yes  | Yes  | Yes               |
| Sociedad Minera El Brocal | Yes  | Yes  | Yes  | Yes  | Yes               |
| Southern Copper Corporation | Yes  | Yes  | Yes  | Yes  | Yes               |
| Trevali Mining Corporation | Yes  | Yes  | Yes  | Yes  | No                |
| UCP Backus & Johnston | Yes  | Yes  | Yes  | Yes  | Yes               |
| Volcan Compañía Minera | Yes  | Yes  | Yes  | Yes  | Yes               |
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